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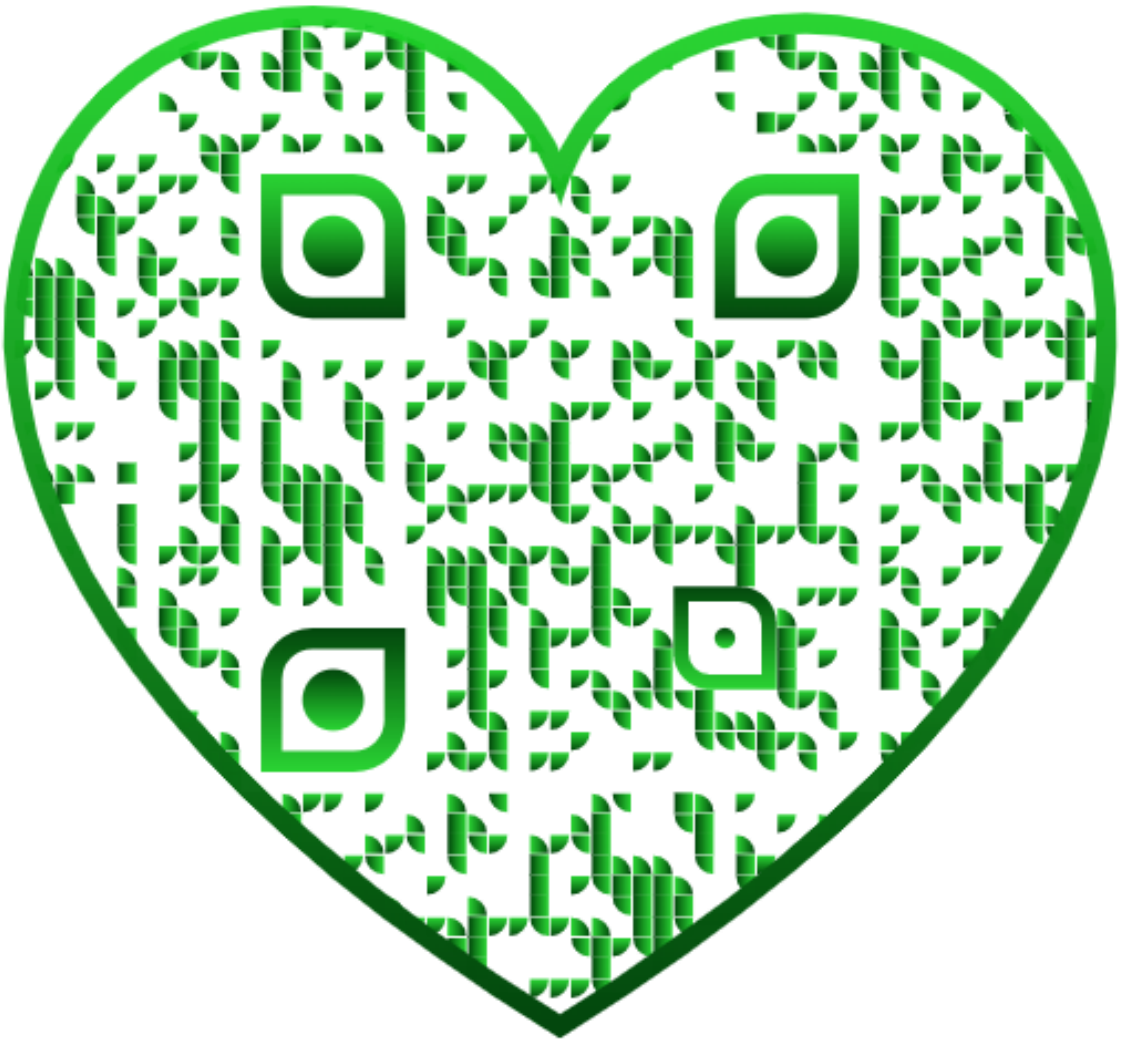

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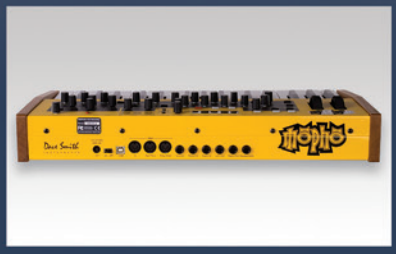

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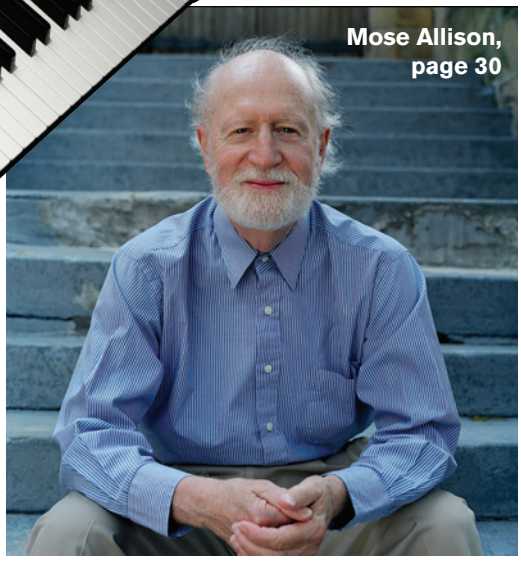
CONTENTS

Also in 88 keys, page 50



Mose Allison, page 30

MICHAEL WILSON

COMMUNITY

10 Your pictures, anecdotes, questions, tips, gear, and feedback!

KEYNOTES

Hot players, news, and reviews from the keyboard world.

12 **Jacob Jones:** The Facts About Fictionist
13 **Moogy Klingman** On Fighting Cancer with Music
14 **Steven Spence of Black Tide:** Keyboard Roots of a Metal Drummer

LESSONS

18 **JOHN NOVELLO Beat the Blues Scale Blues**
22 **MATT ROLLINGS The Subtle Art of Rhythm Piano**
26 **MICHAEL WOLFF Double Diminished Demystified**

ARTISTS

30 **MOSE ALLISON**

One of the most original lyrical and musical figures on the American piano landscape, songwriter and bluesman Mose Allison is nothing less than a national treasure. It was thought he wouldn't record again, but at 83, he returns with the Joe Henry-produced *The Way of the World*. We've got the scoop.

SOLUTIONS

32 **SYNTH WORKSHOP** Sound Management on the **Yamaha Motif XF**
36 **DANCE** The **Dubstep Wobble Bass**
38 **GIGS** Get Your Music on **Film and TV**

GEAR

16 **NEW GEAR**
42 **Korg KRONOS**
50 **Yamaha MOX8**
54 **Cakewalk SONAR X1**
60 **Tonehammer COMPOSER BUNDLE 6: PIANOS**
62 **Korg MONOTRIBE**

TIME MACHINE

66 Axel Hartmann's Forward-Thinking **Gambit** Synth Design

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Up close with Ethan Holtzman of Dengue Fever.

Hands-on vintage and new synths at Roland's "Jupiter-80 University."

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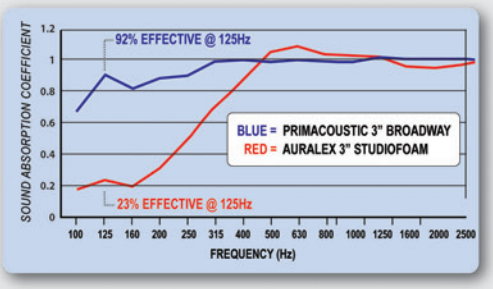

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Vol. 37, No. 9 #426 SEPTEMBER 2011

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From the Editor

We often hear or say that certain music is timeless. It certainly seems like a lot of us feel the same way about certain *sounds* as well. Even though an off-the-shelf laptop with a few carefully chosen soft synths will let you probe frontiers of sound design that someone with a six-figure Synclavier in 1987 could scarcely have imagined, the vast majority of "What do I buy?" emails we receive are concerned with emulating of a handful of familiar sounds: acoustic piano, Rhodes, Hammond organ through a Leslie, and analog synth textures that we can only describe as "fat" and "warm" even as we bemoan those clichés. By contrast, few people are concerned with duplicating a DX7 marimba, that D-50 "Fantasia" patch, or those woozy and metallic timbres a PPG Wave could dish up. This bias is as true of young musicians seeking sonic cred as it is of those old enough to have been gigging when those instruments were new.

Relativism often gets passed off as intellectual sophistication, but I don't think this is all relative to what we were brought up to like. In fact, I think if you raised an infant to adulthood, *Truman Show*-style, in a world where the only keyboard sounds were the most digital of the digital '80s, you'd create an insomniac at best and a serial killer at worst.

So what's going on? Most religions hold that the existence of aesthetic beauty, and of our ability to perceive it, points to wise and benevolent Design. A science-minded view would be that something about human neurology responds more favorably to certain combinations of frequencies than to others. (Maybe Oliver Sacks will one day write about the healing powers of the Hammond B-3 in *The New Yorker*.)

Yup—some sounds are just better than others. Whatever the real reason for this is, *Keyboard* will be there to help you make beautiful music with them.

Stephen Fortner

DIG MY RIG

The pneumatic logic board (right) is an air-powered computer. It reads eight different sources of airflow, which enter through the pipes on top. The screws are adjusted to program the "computer" to accept any tune.

The Pipe Organ Desk has been in the works for more than three years. It is entirely made from solid wood down to the last screw. It features an octave of functional wooden organ pipes. Play the correct sequence of notes, and a secret compartment opens up. When you push in a drawer on the desk, the air is directed to one of the organ pipes at the front of the desk, sounding a note. Some of the air is also directed into a pneumatic logic board, [which] keeps track of the notes played. When it picks up the correct tune, it unlocks a secret compartment. The board can be reprogrammed to pick up any tune.

Kagen Schaefer, Denver, CO,
via mate_stubb of the Keyboard Corner forum

Visit kagenschaefer.com to see more of Kagen's incredible woodworking projects.

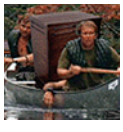
The K Poll

What do you mainly use aftertouch for?

Adding vibrato	27%
I seldom if ever use aftertouch	27%
Modulating filter cutoff and/or resonance	18%
Volume swells, like for brass sounds	14%
Fading in a second layer or sonic aspect	8%
Changing organ rotary effect speed	6%

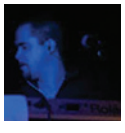
FROM THE FORUMS

Q: What keyboards and rack synths is actor Todd Field playing in this scene from Stanley Kubrick's film *Eyes Wide Shut*? Think you have more accurate answers than our forum members? Let us know at keyboard@musicplayer.com! (Warning: The film and this scene in particular are not safe for work or kids.)

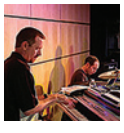


eric: Is that a Korg M1 up top?

RedKey: Bottom keyboard is a Korg SG-1D. To his left is an Akai MPC3000. The rack top has an E-mu Orbit above a Roland JV-1080.



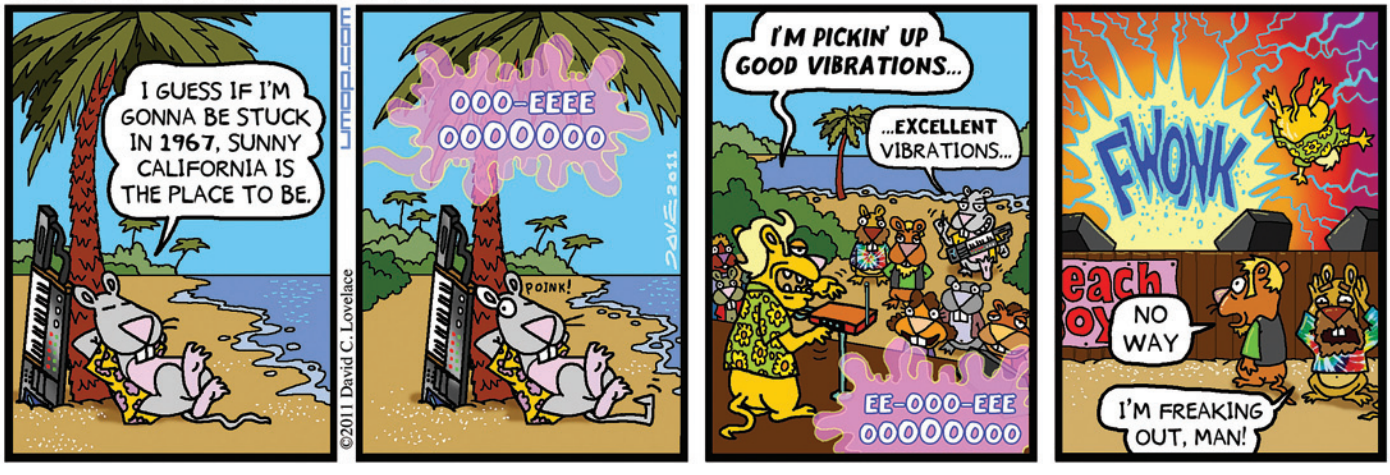
DanS: Or a Wavestation?

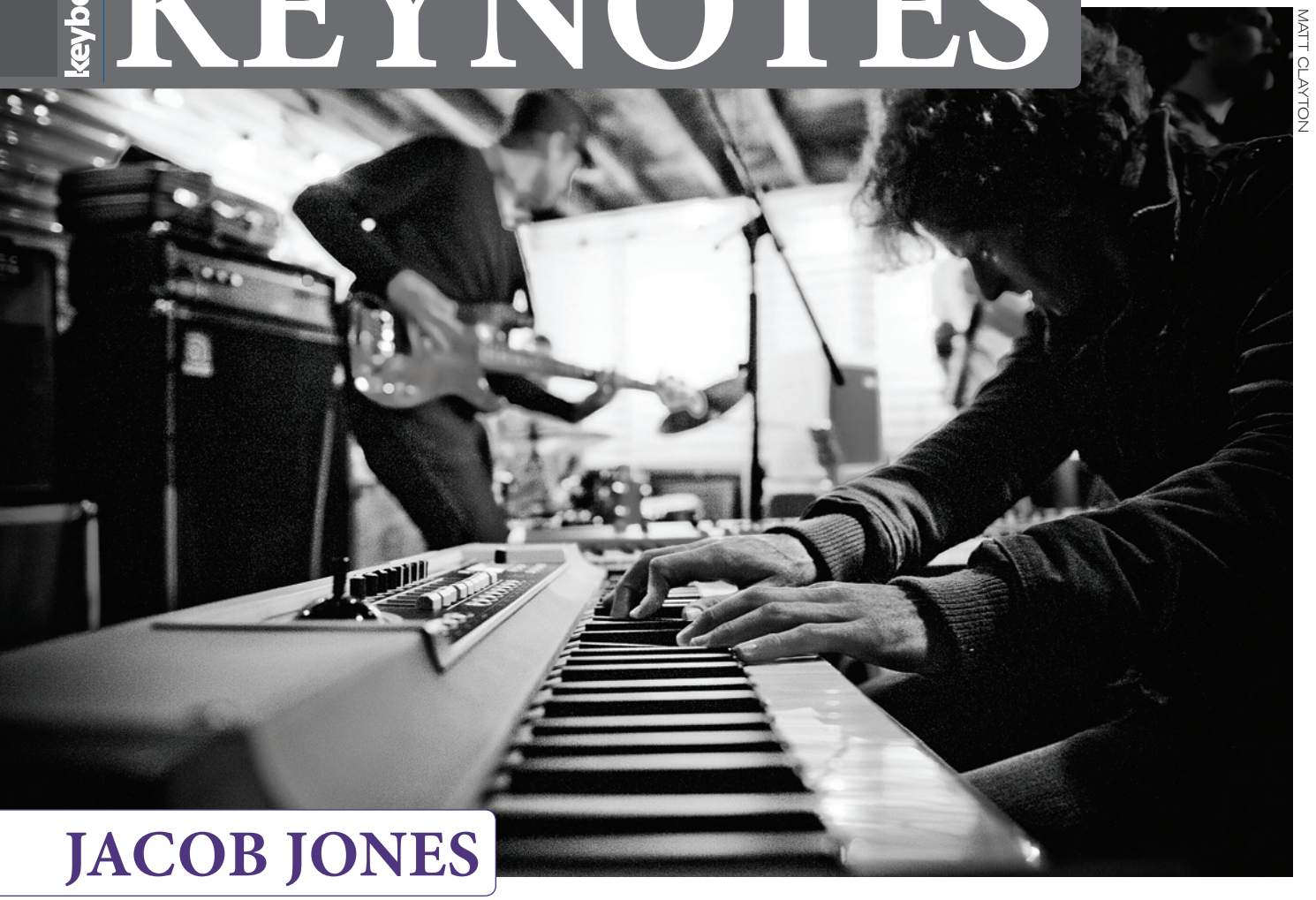


ABECK: Looks like an older Korg SG on the bottom, and some type of Akai MPC on the stand. In the rack, it looks like an E-mu Orbit, a Roland JV-1080, a Yamaha SPX90, and a Waldorf MicroWave.

the PACKRAT™

To catch up on previous episodes of the Packrat's adventures in time, visit keyboardmag.com/packrat.





MATT CLAYTON

JACOB JONES

The Facts About Fictionist

Provo, Utah and Keith Jarrett might not be the first proper names that come to mind when you think of indie rock's next big thing—but for Jacob Jones, the keyboardist in Fictionist, reward lies in the unexpected.

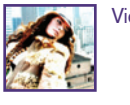
"Our music is full of a wide array of influences," Jones says, during a recent band promo stop in New York. "There's a pop sensibility to it, but there are also elements pulled from jazz, prog, and singer-songwriters. Everything comes together in our live shows. That's where the music explodes."

Jones and his fellow Fictionist bandmates have been riding an explosion of late as contestants in *Rolling Stone*'s "Choose the Cover" contest. Having made it all the way to the third round, the Provo-based band continues to impress critics and listeners alike with their renegade blend of dynamic, jazz-influenced rock. Like a mellifluous marriage of Led Zeppelin, Steely Dan, and Radiohead, Fictionist rocks with smarts and swagger. The band's latest release *Lasting Echo* is a testament to their symbiotic, all-encompassing sound.

"I started taking classical piano lessons at age eight," Jones says of his formative years. "I continued until I was a freshman in high school, when I began focusing on jazz trumpet. I had an amazing trumpet teacher in Sacramento, California who got me hooked on jazz, listening to people like Clifford Brown, Freddie Hubbard, and Miles Davis. The funny thing is, later when I returned to the piano, I was still mainly listening to and transcribing horn players—people like John Coltrane and Charlie Parker. To this day, that horn-like influence is still a big part of my playing. Later I would get heavily into pianists like Bill Evans, Herbie Hancock, and Keith Jarrett."

These days, Jones holds keyboard court with Fictionist behind a streamlined rig of an original Nord Stage 88, coupled with a Studiologic VMK-161 Plus Organ MIDI controller. "The Nord is great for me because I'm mostly playing piano, electric piano, organ, and the occasional pad. The Studiologic controller gives me manual drawbars for my organ sounds. I send everything through a Motion Sound KBR-3D keyboard amp. And that's it. My setup is simple, but it sounds great."

Jones and Fictionist plan to continue purveying their unique brand of independent rock, both live and on record, into the future. "We're doing shows and recording new songs," Jones says of the band's plans at hand. "We're ready to take this all the way." Jon Regen



Video: "Noisy Birds."

More Online! keyboardmag.com/september2011

JIM SNYDER

MOOGY KLINGMAN

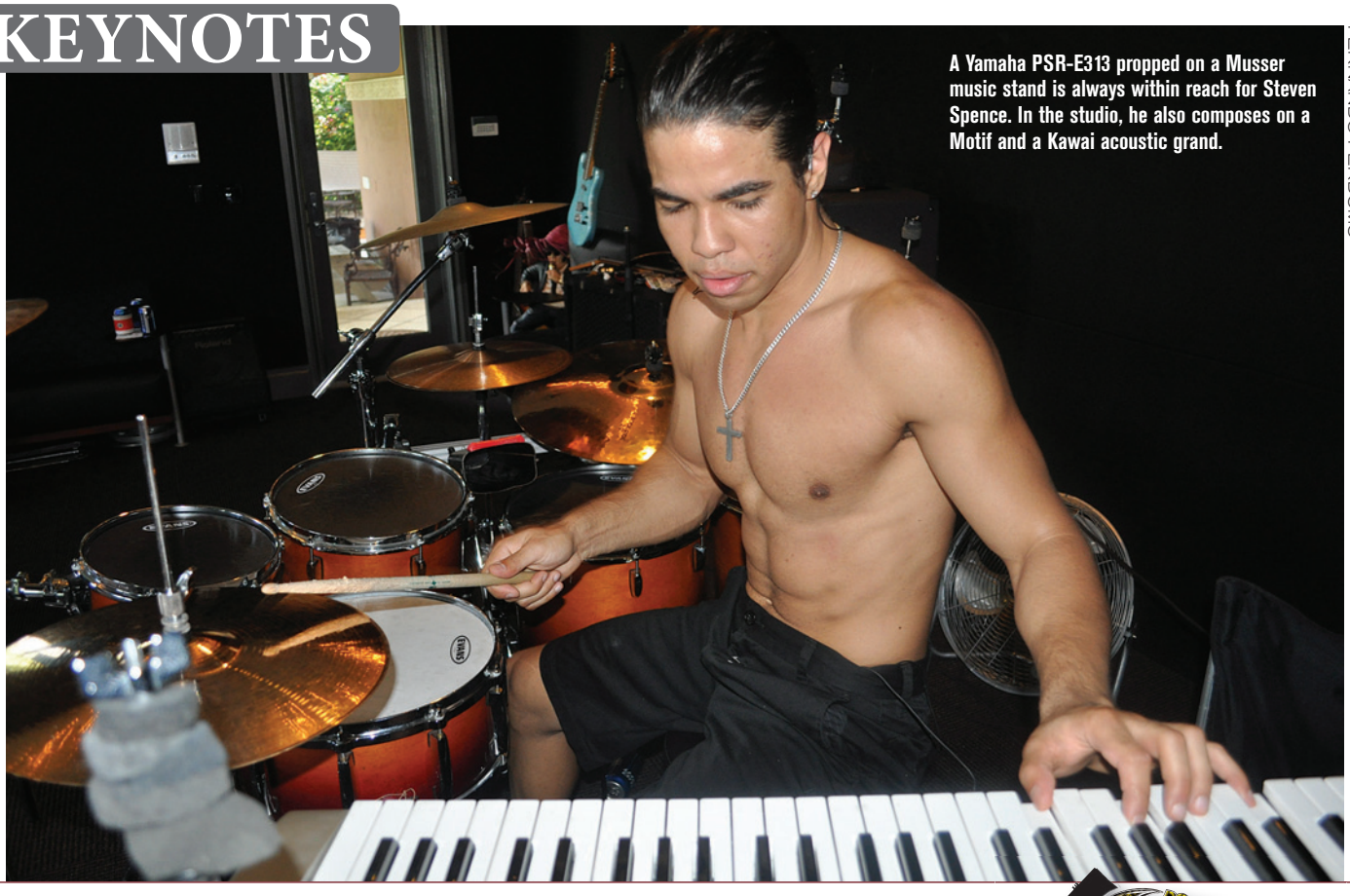
On Fighting Cancer with Music

Mark "Moogy" Klingman has been a part of rock 'n' roll history for more than four decades. As a loyal sideman to Todd Rundgren on some of his most celebrated albums, Moogy tackled a wide variety of piano, organ, and synth parts on classics like "Hello It's Me," "Sometimes I Don't Know What To Feel," "Utopia Theme," and "The Ikon." As a founding member of Utopia, he was at the forefront of progressive rock, with a style deeply rooted in funk, boogie-woogie, and jazz. He co-wrote Bette Midler's signature song "Friends" and produced her album *Songs for the New Depression*, which featured her duet with Bob Dylan, "Buckets of Rain."

Klingman has never stopped playing all over New York City, but a recent diagnosis of an aggressive form of cancer has given him a new outlook on life and a supercharge of energy. In February, the original lineup of Utopia reunited for two sold-out shows at the Highline Ballroom in New York to raise funds for his treatments. Klingman was overwhelmed with emotion, playing with musicians he had not seen in 30 years. He credits music as a major part of his recovery.

How did you get the nickname "Moogy?"
My real name is Mark, and my original nickname was Marky. My little sister used to mispronounce it, and that's how I ended up with Moogy. It's coincidental that I ended up playing the Moog synthesizer in Utopia.
What made you decide to play piano?
I saw the movie *Rhapsody in Blue*, and of course, the opening music was George Gershwin's composition of the same name. The next day I started playing piano. Utopia's song "Freak Parade" was based on *Rhapsody in Blue.* Two of my biggest influences are Gershwin and Aaron Copland.
There are similarities in the way you and Todd write on the piano. How did that happen?
We were both listening to a lot of Laura Nyro when we were 18 and 19; specifically, we both learned a lot from listening to her album *Eli and the Thirteenth Confession*. We went on to influence each other greatly.
Who are some of your piano influences?
Allen Toussaint, Dr. John, Bill Evans, Art Tatum, Bud Powell, and Keith Jarrett, who I studied with.
What were some of the classic keyboards you used in Utopia?
The Fender Rhodes, Minimoog, Univox Mini-Korg, a Hammond L-100 organ, Sound City Piano, an RMI Keyboard Computer and Rock-Si-Chord, a Clavinet, and a Yamaha Grand in the studio.
How did you prepare for the Utopia reunion shows?
We rehearsed ten times without Todd and three hours with Todd. I think it came out rather well.
How did it feel playing the long sets?
Music eliminates all the pain from the battle with "the big C." Music is a real pain reliever. Music is magical. I've been going through operations and treatments, and I felt no pain onstage. It was a real rebirth, but it's a shame that it had to take the form of a fundraiser for me.
What's next for you?
More Utopia shows, I hope. I have a band called the Peacenicks that plays a few times a month, and now I'll be doing some shows with the Utopia Brothers, which includes John Seigler and Kevin Ellman. I have to play a lot because I don't know how long I have left in this world. Ultimately, if I can hang around for a few more years it would be amazing. But if I go soon, I have to say that it was a miracle that I could do these shows, and every show will be a miracle. Fernando Perdomo

Find tour dates, live photos, and more, at moogymusic.com.



A Yamaha PSR-E313 propped on a Musser music stand is always within reach for Steven Spence. In the studio, he also composes on a Motif and a Kawai acoustic grand.

FERNANDO PERDOMO

Steven Spence of BLACK TIDE

Keyboard Roots of a Metal Drummer

Miami-based Black Tide has taken the metal world by storm with appearances at the Ozzfest, Mayhem, and Uproar festivals. With two albums on Interscope Records—2008's *Light From Above* and the forthcoming *Post Mortem* due August 23—their music is as melodic as it is intense, and one can't help but notice how mature Black Tide sounds for a group whose members' average age is 20. A large part of this is owed to drummer Steven Spence, who has developed an unorthodox technique of playing drums and keyboards simultaneously—it's quite the sight to see him drumming one-handed while coaxing neo-classical motifs from the Yamaha keyboard to the left of his kit.

What came first for you—drums or piano?
I started on guitar, but I always had a piano in the house, which I taught myself how to play by ear. My uncle, Martin Batista, played keys for the Wailers, so it's in my blood to play keyboards. Though drums are now my main instrument, they came last.

How has drumming influenced your keyboard playing and vice versa?
Knowing the keyboard has helped me make my own music in [Apple] Logic, and I find myself applying rudiments of drumming to piano and guitar. I find that people can tell I'm a drummer by the way I write and play guitar and keys.

Where can we hear you playing keys on Black Tide's records?
I played keys on "Into the Sky" from *Post Mortem*, and we did a version with me on piano as the main instrument, but it lost some vibe and we added more instrumentation. The piano is still there but it's low in the mix. On the first record, I played piano on "Light from Above," a song on which I play drums and keys simultaneously live. I play that part live with the drums out of necessity. I tried it in rehearsal, started substituting limbs for limbs, and it's become a cool part of the show. I love stretching my limits.

What's the story behind the piano improv on your YouTube page?
That was me warming up to cut "Light From Above" in the studio, and it was a spur-of-the-moment thing. My uncle is a classical player, but I don't really consider myself at that level, so it's totally my interpretation of classical.

Explain your keyboard rig.
Whatever the hell is around, I'll play it! [*Laughs.*] For a while I was using a crappy little keyboard live that my tour manager bought on Craigslist for $30. It had light-up keys, which looked cool onstage. We ended up smashing it because at a sold-out show at Alexandra Palace [in London] opening for Bullet For My Valentine, I somehow triggered the demo song, and "My Heart Will Go On" by Celine Dion started playing louder than anything else through the P.A. We smashed it into little pieces. Now I have a Yamaha PSR-E313, which sounds great. Fernando Perdomo

Steven Spence's piano improv.

Video: Drumming and playing keys at the same time.

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by Stephen Fortner

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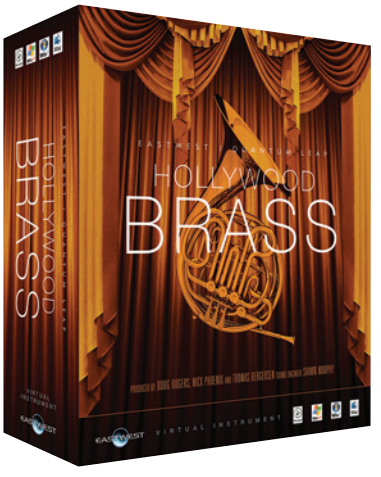

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BEAT THE BLUES SCALE BLUES

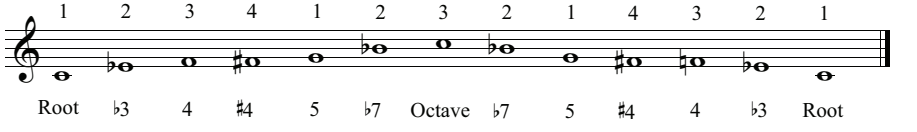
by John Novello

Often times, we find ourselves playing blues or pentatonic-based scales and licks in situations that really call for jazz tonalities. Sometimes, this is due to what music we grew up listening to and practicing, but it's also because blues lines are generally easier to hear, sing, and physically execute. If you find yourself in this situation—playing blues-type changes because they're "what your hands want to do" and wondering where your favorite jazz players are getting those crazy notes from in their solos—then read on. To help speed your progress, make sure to both play *and* sing the following exercises in all 12 keys. Soon, you'll hear a jazz player at work and know his or her secrets!

1. The Comfort Zone

Ex. 1 is our old standby the blues scale. It can be a valuable tool, and is especially suited for soloing over rock chord progressions. However, it shouldn't be the only sound at your command. Remember that omitting the raised fourth in the blues scale gives us a pentatonic scale, another useful sound on our improvisational palette.

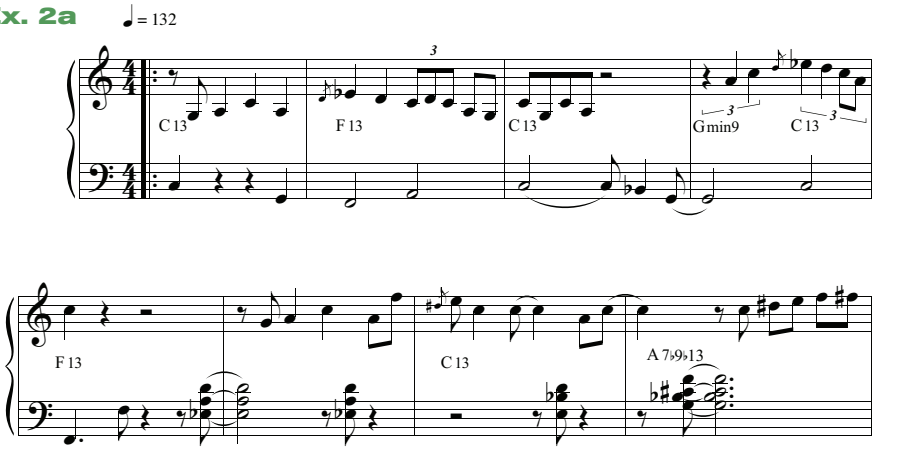
Ex. 1



2. Two Approaches to Improvisation

Let's look at two types of improvisation that will help expand your musical vocabulary beyond the blues scale. **Ex. 2a** illustrates what I call "key center" improvisation, where melodic lines are constructed with the focus on a particular key center (using modes or scales). **Ex. 2b** shows what I call "making the changes," where melodic lines are built by outlining the chord changes as they occur. Both of these styles of improvisation should be practiced and added to your playing to expand your musical language. The goal is to be able to weave in and out of both of these types of improvisation effortlessly.

Ex. 2a



Ex. 2b

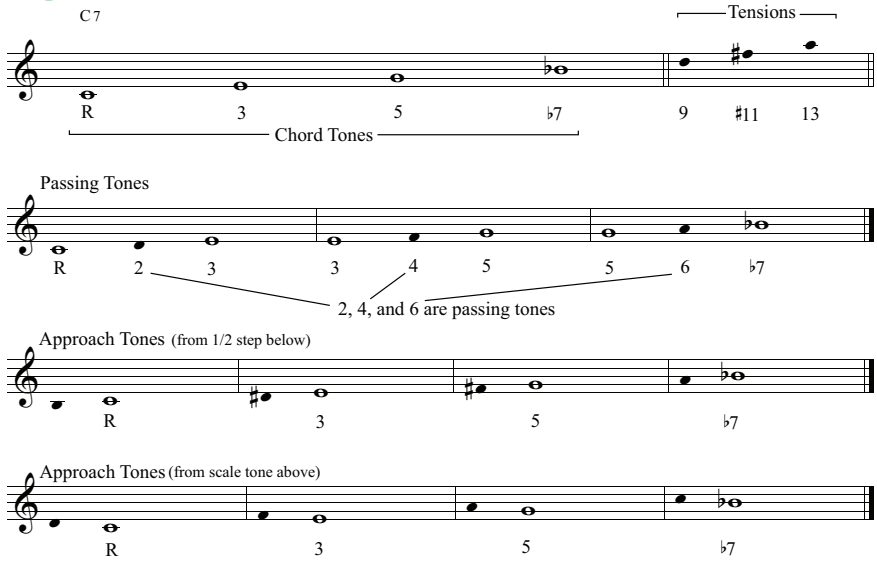
3. Get Tones from Chords

How do you do this? You need to establish a reservoir of notes to draw from, and one of the most abundant sources is our old friend the dominant seventh chord, hence **Ex. 3**. *Chord tones* are notes derived from the root, third, fifth, seventh, and sometimes the sixth of a given chord. *Tensions* are notes that add color or enrich a basic chord sound, (often the ninth, 11th, and 13th). Passing tones are scale tones that connect two adjacent chord tones–often the second, fourth, and sixth. *Approach tones* are generally weak tones that approach stronger chord tones, the most common being a half-step below or the next scale tone above the destination note. Try adding these new tones to your improvised lines. You'll be amazed at how they expand your musical range.

4. Major and Minor Options

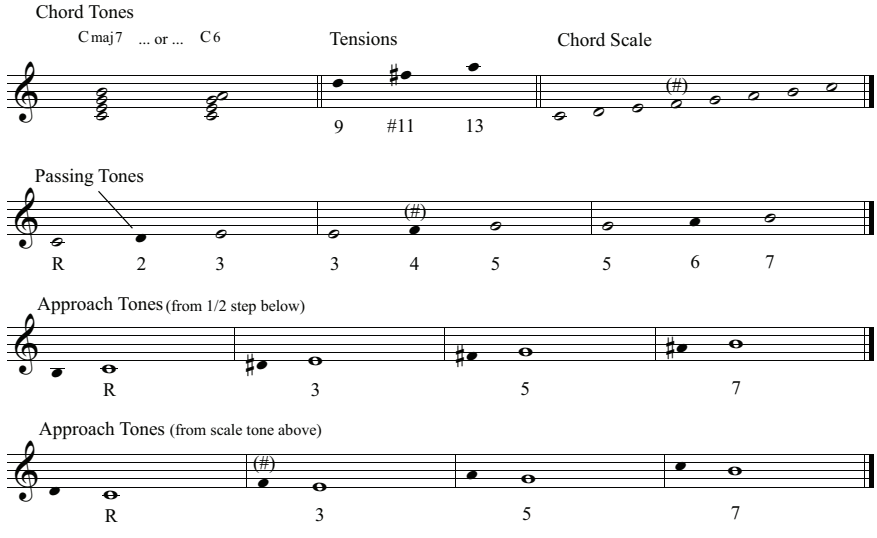
Chord, tension, passing, and approach tones are also available when building melodic lines over major and minor chords. **Ex. 4a** illustrates some of the available note choices when improvising over a *C* major seventh chord. Note choices available for a *C* minor seventh chord are shown in **Ex. 4b**.

Ex. 3



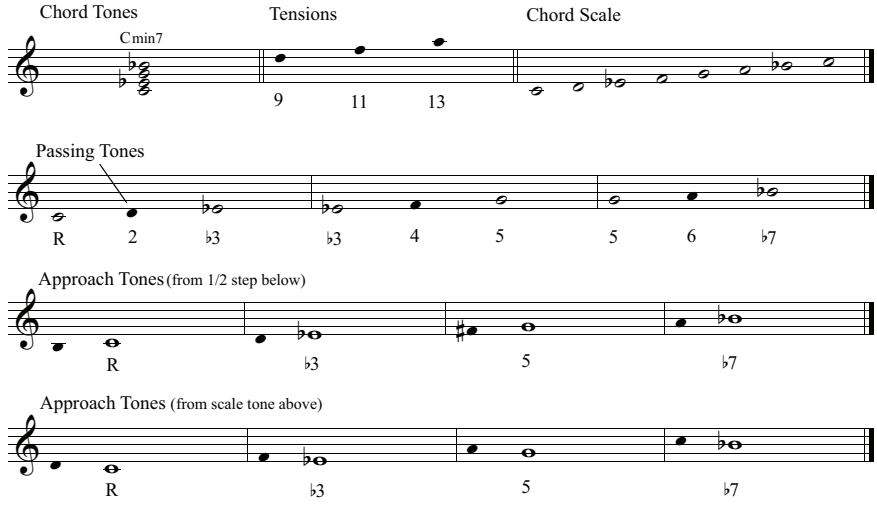
Ex. 4a

C Major 7



Ex. 4b

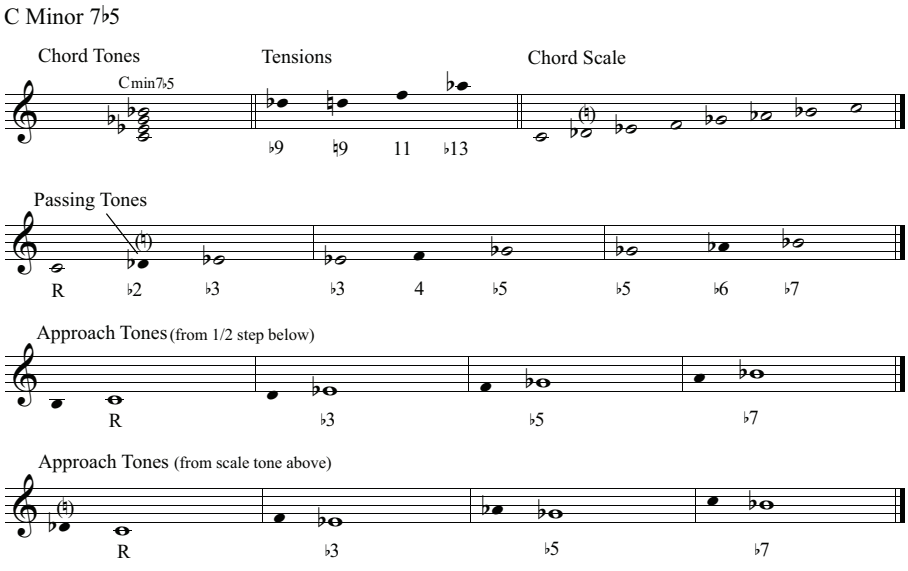
C Minor 7



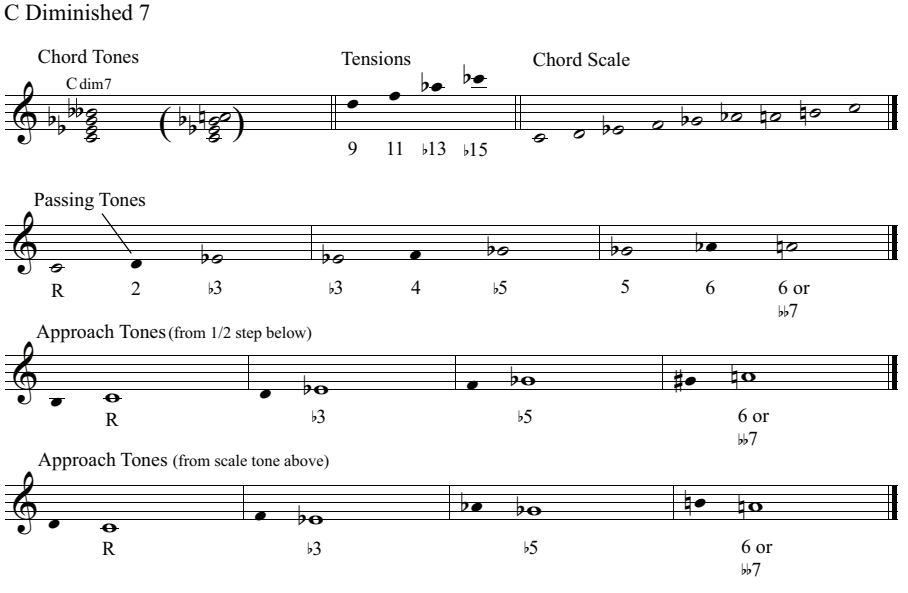
5. Half-Diminished and Diminished Options

Half- and fully-diminished chords are also emboldened by this new reservoir of available tones. **Ex. 5a** illustrates some of the notes available when building an improvised line over a *Cmin7♭5* (or half-diminished) chord. The notes available on a *C* diminished seventh chord are shown in **Ex. 5b**.

Ex. 5a



Ex. 5b



Dedicated to the memory of Charlie Banacos. –J.N.

RACHEL JOHNSON

John Novello is a world-renowned keyboardist, composer, and music educator. He is the co-founder and Hammond B-3 player of legendary fusion trio Niacin, featuring Billy Sheehan on bass and Dennis Chambers on drums. His keyboard instruction method, *The Contemporary Keyboardist* (published by Hal Leonard) is considered the bible of modern keyboard instruction. Find out more at jazzkeyboardlessons.com. Jon Regen

Audio examples.

Niacin's "Slapped Silly" and more live videos.

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THE SUBTLE ART OF RHYTHM PIANO

by Matt Rollings

Over the years, I've had the opportunity to play piano in many different styles. Whether I'm playing pop, rock, or country, the piano's role in all of these genres is almost always to play rhythm. The most important principles of rhythm piano are listening and responding to the rest of the rhythm section. Being a great rhythm piano player is, in many ways, like being a great drummer. There's nothing worse than a severe difference of opinion between the keyboardist and the drummer as to where the groove is, so my philosophy is that the drummer is generally correct! Here are four examples of rhythm piano, all using the same chord progression and key, but employing different stylistic interpretations. Remember—if drummers like playing with you, you're headed for success!

1. Gospel and Ghosts

Ex. 1 is a Gospel-style rhythm piano part, and one I'll use in pop music if the song calls for a little "church." The basic feel is quarter-notes, but throwing in accented, dotted quarters helps outline the groove I'm going for. In this example, you'll notice my frequent use of "ghost" rhythms alongside the main rhythmic pulse. This technique helps outline the track's subdivision, and also helps me groove with the drummer without overplaying. These "ghosts" are very subtle, much like the ones a drummer often plays on the snare in between backbeats.

Ex. 1

2. NoLa Swing

In **Ex. 2**, I'm playing a New Orleans-style rhythm piano part. The key to this style is to find a rhythmic pocket somewhere in between *straight* and *swing* eighth-notes. As in the previous example, I do a lot of "ghosting" alongside the main rhythmic pulse, which again helps the piano and drums connect. Remember that the main idea of rhythm piano playing is getting inside the drummer's feel so you can feed off of each other in a rhythmic conversation.

Ex. 2

3. Play the Feel, Not the Fill

Ex. 3 is a standard pop/country ballad. This kind of piano part needs to flow seamlessly between chord changes, so remember that simplicity and relaxation are the hallmarks. As in **Ex. 1**, the basic feel is quarter-notes, with eighth-notes used as connectors. Any additional fills should be derived from that quarter-note pulse, and never interfere with it, as illustrated by the saying, "Play the feel, not the fill." My approach to this type of accompaniment is to try to make it sound like the singer is playing the piano as well. Any fills or extra bits should only be in response to the vocal.

Ex. 3

4. Hornsby-ing

Ex. 4 is a midtempo, Bruce Hornsby-esque rhythm piano part. In this style, I often use octaves or sustained "drone" notes, filling in chord structures while keeping the drone notes constant. Notice how this style affords the pianist an even greater opportunity to play like a drummer. Once again, I'm filling in rhythmic "ghosts" or subdivisions with my left hand to accentuate the pulse. The accents of these "ghosts" really help telegraph the song's groove. For me, this process is very much a physical one, where I use my body to feel the music I make on the piano. For this style, a little Gospel grit can go a *long* way.

Ex. 4

Los Angeles-based keyboardist, producer, and songwriter **Matt Rollings** has toured and recorded with such legendary artists as Lyle Lovett, Mark Knopfler, and Keith Urban. Find out more at mattrollings.com. Jon Regen

Audio examples.

Matt Rollings live with Mark Knopfler.

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DOUBLE DIMINISHED DEMYSTIFIED

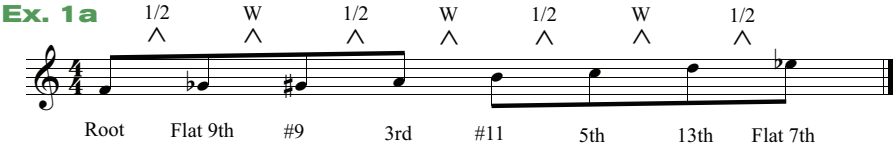
by Michael Wolff

I first learned about the double diminished scale in the 1970s, inspired by pianists like Chick Corea and Herbie Hancock. At that time, I was studying a book by Nicolas Slonimsky called *Thesaurus of Scales and Melodic Patterns*. It displayed countless chords alongside scales that corresponded to them, and connected dominant seventh chords with the double diminished scale. From there I started introducing my ears to its singular sound. Here's an introduction to this alluring scale, along with some ways to put it into action. For an example of this scale used to great effect, check out saxophonist Cannonball Adderley's seminal album *Somethin' Else*—specifically the unforgettable version of the standard "Autumn Leaves" featuring Miles Davis.

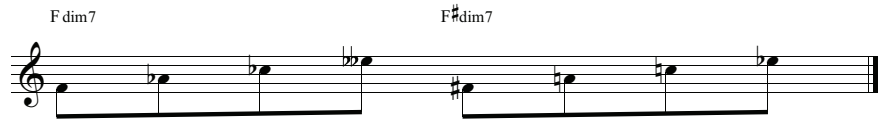
1. Double Diminished Basics

Ex. 1a illustrates the idea of this scale, with a root of *F*. It's derived from two diminished seventh chords a half-step away from each other: *Fdim7* and *F♯dim7*, shown in **Ex. 1b**. Any double diminished scale contains one of three series of notes: starting on *F, F♯* (**Ex. 1c**), or *G* (**Ex. 1d**). Start on a different root, and you'll find yourself walking through one of those series, just in a different order.

Ex. 1a



Ex. 1b



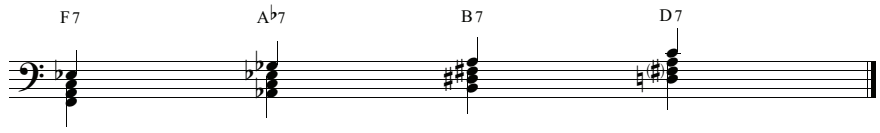
Ex. 1c

Ex. 1d

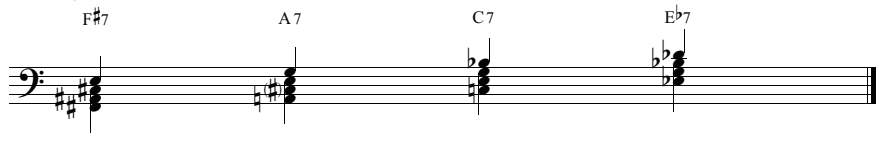
2. Chord/Scale Relationships

Each double diminished scale can be used over four different dominant seventh chords. The scale starting on *F* can be used over *F7, A♭7, B7,* and *D7* chords, illustrated in **Ex. 2a**. The scale starting on *F♯* can be used over *F♯7, A7, C7,* and *Eb7* chords, shown in **Ex. 2b**. The scale starting on *G* can be used over *G7, B♭7, Db7,* and *E7* chords, as in **Ex. 2c**. Try playing each chord along with its corresponding scale to start incorporating these sonorities into your musical vocabulary.

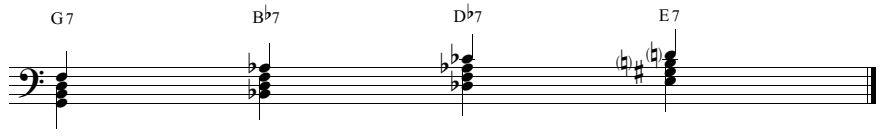
Ex. 2a



Ex. 2b



Ex. 2c



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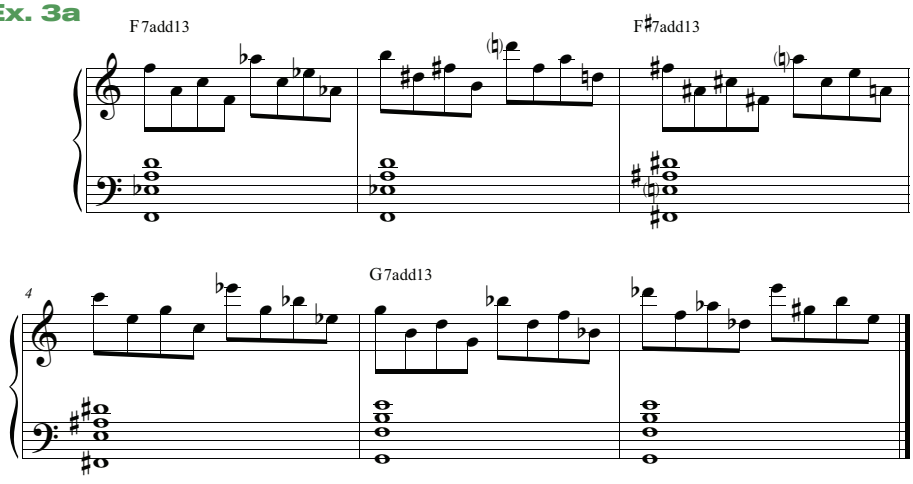
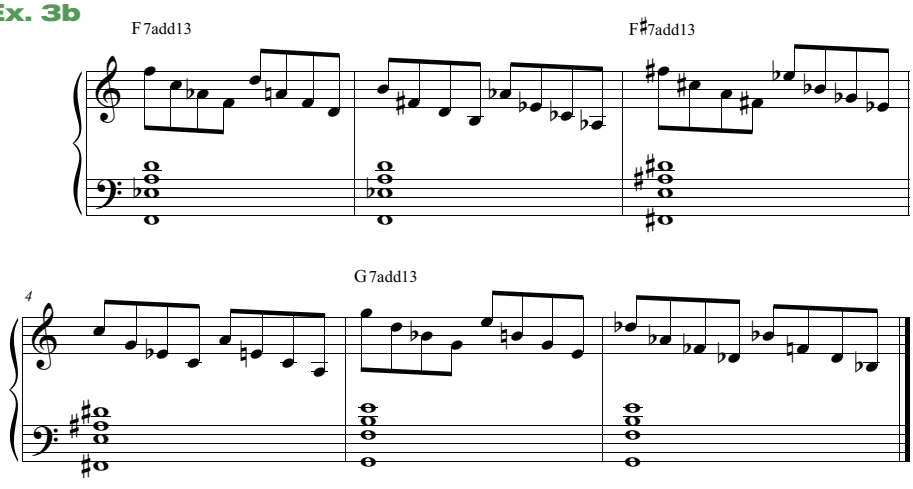
3. Arpeggio Workout

Improvising with arpeggios is another great way to apply the sound and feel of the double diminished scale. **Ex. 3a** illustrates an arpeggiated pattern built using major triads from (again) those four corresponding chords. Minor triads also work well when arpeggiated in this fashion, as in **Ex. 3b**. Another way to imbue your playing with this potent sound is by arpeggiating the two diminished seventh chords that make up each double diminished scale, as in **Ex. 3c**.

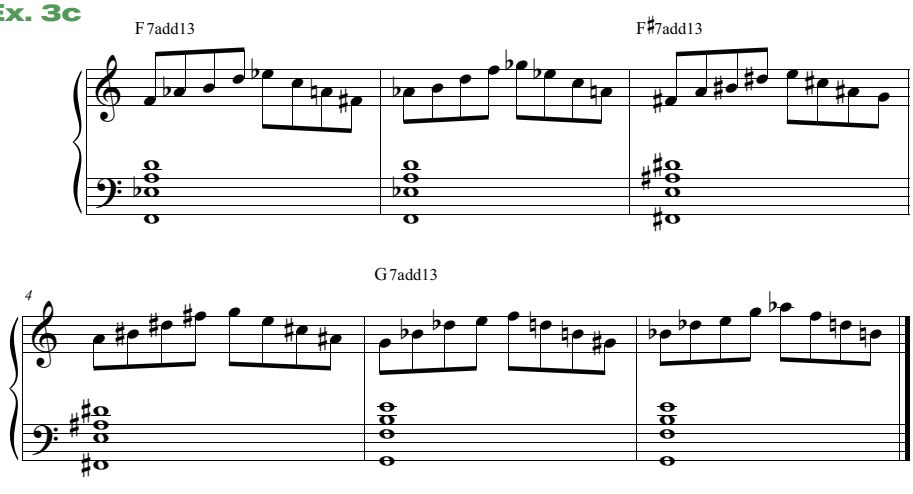
Ex. 3a



Ex. 3b



Ex. 3c



Jazz pianist, composer, and bandleader **Michael Wolff** has anchored the bands of Cannonball Adderley, Sonny Rollins, and Nancy Wilson, and was also musical director for *The Arsenio Hall Show*. Find out more at michaelwolff.com.

Jon Regen

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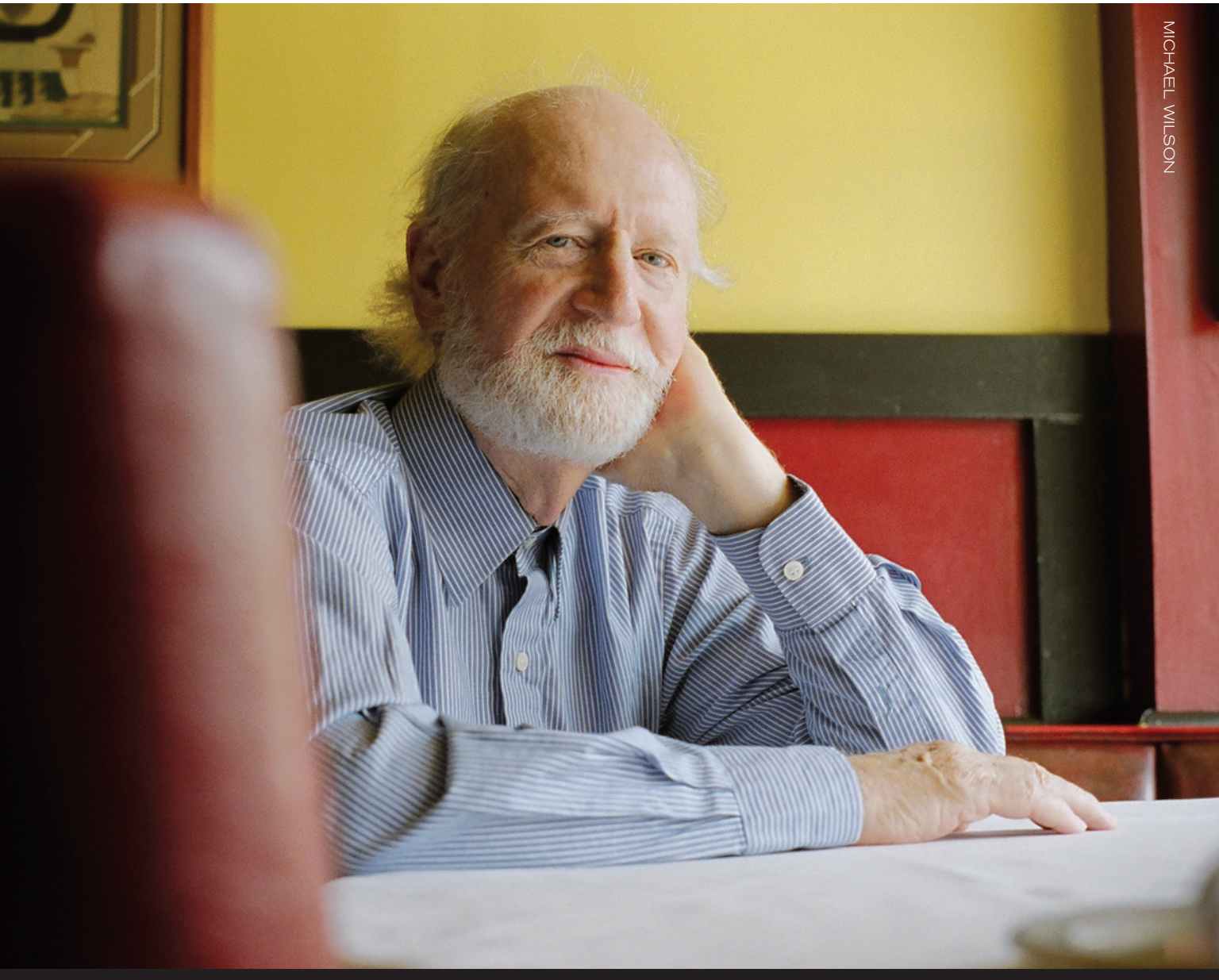

MICHAEL WILSON

Hipster pianist, jazz poet, country bluesman—the possible descriptions of Mose Allison's signature musical style stretch almost as long as the 83-year-old artist's career. Allison's audacious amalgam of angular pianism and wry lyrical wit has influenced legions of artists. In fact, there's hardly a singer, songwriter, or jazz-tinged pianist working today that doesn't owe a musical debt to the Mississippi native, who has seen his infectiously inventive songs covered by the Who, the Clash, and Van Morrison.

After a self-imposed 12-year sabbatical, Allison has returned with *The Way of the World*. Helmed by Grammy-winning producer Joe Henry (an acclaimed solo artist in his own right), the record marries the familiar sounds of Allison's piano trio with unexpected new sonorities: Jay Bellerose's propulsive percussion, Greg Leisz's countrified guitars, the tenor sax stylings of Walter Smith III, and even Allison's own daughter Amy on vocals. It's Mose 2.0, and a whole new chapter for one whose very legacy defies characterization.

Joe Henry on Making *The Way of the World*

LAUREN DUKOFF

"Our record wouldn't have happened if it wasn't for Mose's wife, Audre," says Grammy-winning producer Joe Henry. "I'm completely convinced of that. I'd taken Mose to Germany with me last summer for a festival I was curating. Mose's wife, who's a retired high school English teacher, came along, and we wound up talking every day about authors like Raymond Carver and Alice Munro. As we were leaving, I said 'I feel this great compulsion to make a record with Mose,' to which he replied 'I'm done making records.' So I just continued to correspond with Audre, who loved the idea of Mose and I making a record together. And so, as I said in the album's liner notes, I embarked on an old-fashioned letter writing campaign, where I'd send emails to Audre and she'd print them out and give them to Mose. I did this for months–pushing ideas to him. With that little bit of encouragement from Audre, I just kept going. And as it turned out, he actually got excited about the project.

"We recorded everything over four days," Henry continues. "At first, I was overly anxious that Mose be pleased, because I had dragged him into the project. But very quickly into the first day, I realized he was very open to trying different things, to being surrounded by different sounds than he was accustomed to. So I just decided to do what I heard, and do all the things we talked about. And he never batted an eye."

The new album is a really interesting mix of what you do and what Joe Henry does.

Yeah, well Joe kept asking me, kept *wanting* me to record for years. I finally just decided to say "Why not?"

You're known for a lean, trio-based sound, both live and on record. This album is trickier, with sneaky sax lines and slide guitars. Did you enjoy augmenting your core piano-centered sound?

Oh, yeah. It's different from my usual records. I usually control my own records. This time, I just sort of let Joe Henry control this one. He hired the musicians and so forth. I just did my part and didn't worry about what other people were doing. And it came out okay. I really don't know what it's like just yet—I'll have to listen to it! Six months from now, I'll be able to tell you how I feel about it! But I haven't decided what I think of it yet, because I don't like to listen to me anyhow! [*Laughs.*]

Your music is often called 'hard to categorize.' There are comedic themes and serious ones, country riffs and Monk-ish sharp eleventh chords. But isn't that the point?

Yeah, that's what I always told people. I said "I'm a musician, I do a lot of things." People are just beginning to pick up on that. I've had a lot of records out, and they haven't done much as far as selling goes. But I feel that more and more people are now coming around to what I do, and they're digging the songs.

Twelve years have passed since your last studio album. Why was there such a long break?

I just wasn't gonna record any more. I figured that my next record would be in my living room with just a bass player, probably. But Joe Henry kept after me, after we played a gig in Germany a few years ago, and so I finally said "yes."

Did you do a lot of new writing for the album?

Not really. Joe sent me some lyrics and I wrote the melody to them, For the title track "The Way of the World," I liked the tune, and he was satisfied with the melodic thing I put to it. That's sort of the way the whole record went. It was a confabulation between he and I. I let him direct things.

What kind of pianos do you like to play?

I have a Yamaha at home, but you can't beat a Steinway if it's in good shape. Actually, I think the older ones are better. But I like Baldwins too. I've been lucky to play on a lot of good pianos.

Do you keep up with what's happening in contemporary music?

I've been listening to far-out contemporary composers lately. One that I've been listening to for several months is Wolfgang Rihm. I listened to Arnold Schoenberg for a long time as well. I like music that's completely different from the stuff I usually do—I actually discovered Rihm in a Borders bookstore. They were playing him on the house sound system, and I liked it right away. So I bought it.

What players did you listen to when you were coming up as a young musician?

Thelonious Monk was a great hero of mine. I played on the bill with him on a lot of gigs. I did a month with him at the Five Spot on Eighth Street [in New York City] years ago. I also played with him at the Village Vanguard. I opened the shows for him a lot. It's funny—Monk is considered a bebopper, and he never played bebop! He's completely unique. He and [saxophonist] Lester Young are my two favorite musicians in jazz.

So Monk having his own sound struck you from the beginning? Is a lesson in there for younger musicians?

You know, everybody starts off copying somebody else. When I was a teenager, I was listening a lot to Nat "King" Cole and Erroll Garner, and people like that. Later, I listened to [Modern Jazz Quartet pianist] John Lewis, and Bud Powell, and so forth. I quit listening to all those people after a while. I figured you have to do your own thing.

Is it gratifying to be known as a true original?

Well, that was part of my original plan. That's what I always thought that every musician should do. I'm happy to be along that road, as far as I've come. I don't plan on changing anything—I just do what appeals to me.

If a young musician came to you for advice and said, "I want to write songs, play the piano, and have a career in music," what would you tell him?

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Synth Workshop

MOTIF XF SOUND MANAGEMENT

A big way in which the Yamaha Motif XF (reviewed June '11) is different from its predecessor the XS is that it can store up to 2GB of sample-based sounds that remain in memory with the power off. Maximing the benefits of this requires some planning and strategy. As with so many things, understanding the terminology is the first step.

User Peruser

A key word is "user," abbreviated USR on the Motif line. "User" means something that can be changed by *you*. In the Motif file system, it may refer to either of the following, which can create some confusion: First, a user location for Voices, Performances, and so on, whose contents can be overwritten—"program memory" by a familiar term. Second, RAM where samples can be loaded and kept temporarily until the Motif is powered down.

The opposite of "user" is "preset." You can't overwrite preset Voices, Performances, or banks. You can *edit* them, but you then need to write them to a user location.

The Motif XF has four user Voice banks where you can store anything—from an edited preset or a new Voice you programmed from scratch, to a purchased Voice library. On the Motif, "Voice" means a single sound, and "Performance" means a combi of up to four Voices, which can be split and layered across the keyboard.

Like most modern synths, the Motif XF has factory wave ROM. If you alter a Voice, you're not affecting this wave ROM—you're just changing the various synth settings "downstream" of that ROM. Many classic third-party Voice libraries drew on factory wave ROM only. By contrast, many newer third-party libraries include their own samples. Those samples—or any that you record yourself using the Motif's integrated sampling —need to be stored in sample memory.

Flash on the XF

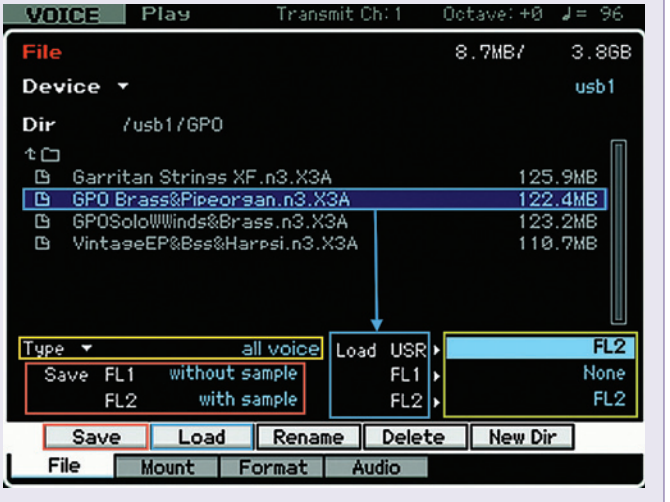
On Motifs prior to the XF, optional sample RAM—user memory—served this purpose. If you turned off the Motif, you'd have to reload your samples the next time you powered on. The Motif XF has 128MB of sample RAM pre-installed. You can't expand this directly; instead, you get more memory via optional Flash boards—the XF takes one or two, each either 512MB or 1GB in size, for a 2GB maximum. Unlike RAM, Flash retains data with the power off.

With sample RAM, if you got confused about what Voices were using what samples, you could power down and start over. Reformatting a Flash board, by contrast, can take up to 30 minutes, as can reloading the data afterwards. You can avoid this by knowing exactly what you're storing and where.

Voices and Performances (not to mention sequencer Patterns, Songs, and arpeggiator phrases) are never stored to user RAM or Flash boards; only *samples* go there. Voices and Performances are sets of settings that *refer to* samples living in factory ROM, user RAM, or Flash. As on most modern synths, user Voice and Performance settings *are* retained with the power off (a separate and relatively small bit of Flash memory on the mainboard is devoted to this), but anything in user *sample RAM* is not. Yet they're both called "user," so it's forgivable to assume they have the same behavior. They don't.

Flash Course

When loading new Voice libraries into the XF from a USB drive or networked computer, the fields on the XF's File screen are key. A *lot* of traffic direction happens on this one screen, so we've color-coded the key areas in our "XF File Screen Decoder" below to help make sense of it all. Sound libraries can feature Voice settings stored to any user Voice



XF File Screen Decoder

- **Top center:** A directory of sound libraries (Garritan Pesonal Orchestra in this case) from a connected USB drive.
- **Red outline:** These options for whether samples are stored to Flash boards are relevant only to saving work you've done on the XF, not to loading sounds from a drive.
- **Blue outline:** USR, FL1, and FL2 refer to where any custom samples were stored when the file you're about to load from the USB drive was originally saved–*not* to what's currently in the XF's user and Flash sample memory, as one might assume.
- **Green outline:** Destinations you can choose for the incoming sample content from the loaded file.
- **Yellow outline:** What type of data is loaded or saved.

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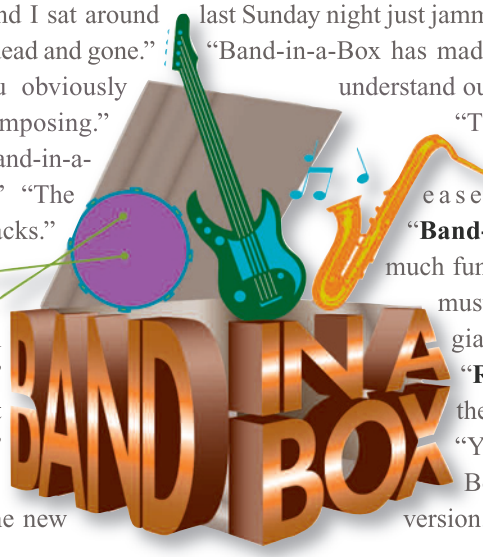

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bank. If the library includes its own samples, you must point them to the desired destination. You can freely load samples that the library's creator originally had in one area of memory (USR sample RAM, or Flash boards FL1 or FL2, as outlined in blue in our screenshot) to another (as outlined in green).

Note that in the green-outlined area, the "None" destination is crucial for when you've filled up one Flash board with samples and want to start filling another. The alternatives "FL1 without sample" or "FL2 without sample" might *seem* correct intuitively, but they'll actually reload all the key and velocity mapping pointers—but not the samples themselves—to either FL1 or FL2. So avoid these unless you know exactly why you need them.

You can also specify what type of data to load (as outlined in yellow).

- **All**: Overwrites everything: Voices, Performances, Songs, Patterns, arpeggios, samples, and MIDI/system settings.
- **All Voice**: Overwrites Voice and Performance settings and associated samples, but not Songs, Patterns, arpeggios, or system settings.
- **1 Bank Voice**: Loads one user bank of Voices and associated samples. Third-party libraries tend to load their Voices to USR4 by default, so this is handy for redirecting those to a different bank.
- **Voice:** Loads a single Voice to your choice of slot in any user bank.

Saving: With and Without Sample

The difference between the raw sample material used by a Voice and the editable parameters for that same Voice is especially relevant when *saving* Voices you've edited. If a piano library has already been installed to Flash, you don't want to re-save the sample data just because you've adjusted the filter. So, the XF gives you the option of saving your edited Voices "with sample" or "without sample," as we've outlined in red in our screenshot. This also saves load time later on. Loading an "All" file whose associated samples are already in Flash will take mere seconds.

Keep in mind that saving samples to Flash is really *burning data*—data that can't simply be overwritten. When saving work you've done in the XF, especially if you have two Flash boards installed, keep a careful eye on "with sample" and "without sample" so that you don't save samples redundantly.

File Detective

We've said that the USR, FL1, and FL2 sources (again, blue outline) represent where samples were originally saved when a file was created. The file extension in the name of the library tells you where. In our screen shot, the highligted file on the USB drive is "GPOBrass&Pipeorgan.n3.X3A." The "X3A" means it's a Motif XF-formatted file. The "n3" means that nothing was stored to either of the Flash boards when this library was created and saved. (By elimination, if custom samples are present at all, they were originally stored to user sample RAM.) An "n2" in its place would mean that samples were stored to FL1, not FL2. Conversely, "n1" means samples were stored to FL2, not FL1. The unifying theme here is that "n" means "nothing." Julian Colbeck and Stephen Fortner

Motif XF Flash memory video tutorial.

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Dance

THE DUBSTEP WOBBLE BASS

Few dance music genres have taken the world by storm like dubstep. Britney's doing it. Deadmau5 has dabbled. Whether you're a fan or not, there's really no point in resisting anymore. It's time to deconstruct the production process behind that trademark wobbly dubstep bass sound so that you have it in your audio arsenal.

The three essentials for making dubstep bass are a soft synth with tempo-synced LFOs, a decent distortion plug-in, and a DAW that allows easy automation of the synced LFO rate. Fortunately, Propellerhead Reason has all three, so we'll use that for this month's tutorial.

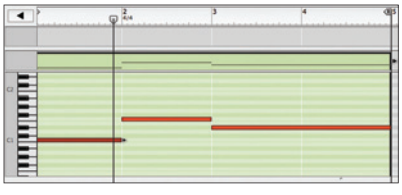
Francis Preve

Step 1.

Create a simple two-oscillator bass patch, as I've done in Reason's Subtractor synth (shown above), consisting of a triangle or sine wave for beef and a sawtooth for buzz. Make sure the oscillators are *not* detuned, so that you don't introduce phase cancellation that will interfere with the all-important wobble.

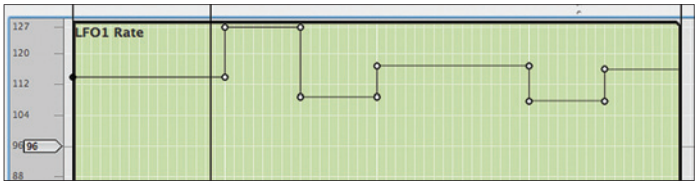
Step 2.

Lower the lowpass filter cutoff to about 25% and apply a tempo-synced triangle-wave LFO to modulate the cutoff frequency. Tempo-sync is crucial, since it needs to be perfectly in rhythm—and that's what we'll be automating. Increase the LFO modulation amount to about 50 to 60% to give it a pronounced effect on the cutoff.



Step 3.

For the purposes of experimentation, create a simple bass sequence consisting of whole notes (left). You should hear the trademark dubstep wobble at this point. Next, using your DAW's automation tools, change the LFO rate as the sequence plays (below). Faster or slower doesn't matter here—let your ears be the guide.



Step 4.

Once you have a cool wobble sequence going, it's time to add the secret sauce of dubstep bass: distortion. Anything goes at this point. Overdrive, distortion, bit-crushing . . . the grimier, the better. In the main image above, we're using Reason's Scream device.

SOUNDCLOUD

Step-by-step audio examples.

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Longtime contributor **Francis Preve** honed his chops working at Nemesys on the original GigaSampler, has served as editor of electronic dance music hub beatport.com, and just launched his own EDM record label, Academik. Find out more at academikrecords.com.

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ACTION!

Insider Tips for Getting Your Music on Film and TV

Your computer's RAM-ed up, your DAW and plug-ins updated, your keyboards patched in and ready to go—and you've learned more production tips than you can shake a stick at from these very pages. You're a one-person music creation machine and the ideas are flowing.

But once your luscious love themes, adrenaline-marinated horror hits, and soul-stirring action fanfares are safely exported and backed up, how do you get them heard—and in a position to earn some money for your creative efforts? For many aspiring composers, licensing original music for use in film and TV is the proverbial Holy Grail, and for good reason: Your music can get played for thousands, if not millions, of listeners, potentially for years to come, and if you ink the right deal, you can make solid bucks in the process.

To help pull back the curtain on getting your music from "bounce to disk" to "back after these messages," we spoke with *Billboard* Award-winning producer and music supervisor Brooke Wentz. She's also the author of the book *Hey, That's My Music!* and founder of the San Francisco-based music supervision and clearance company, the Rights Workshop. Michael Gallant

What should composers know about sound quality and media format when they begin sending their music out?

The audio quality should always be the best possible. Specific file format—AIFF versus WAV, for example—doesn't matter as long as it sounds good. For submitting music, the format can be anything from emailing a ZIP file to sending a physical CD.

How long should music cues be?

You can send shorter ones, at 30 seconds to a minute, and if something needs to be expanded upon, you can always make it longer. In my experience, keyboardists usually try to get an emotive feeling, so it's important to get your strongest material across *right in the beginning*. Don't do the Philip Glass thing and gradually build—getting there right away is vital for film and TV.

If it's actually your goal to write theme songs [as opposed to cues or incidental music], remember that TV themes need to kick right in. The Rights Workshop worked on the theme for ESPN's *X Games*, which was built on just 13 notes. The *Seinfeld* theme is iconic and it's built on only five notes. Make your music strong and memorable from the get-go.

Is it ever appropriate to send a rough mix or a work-in-progress, or does everything need to be polished?

It depends on your aim. If you're cold-calling music supervisors, you want a clean, professional feel for the production on all of your work. Especially if you're up-and-coming and you want to get yourself out there, then things you send around should be fully produced.

On the other hand, there are times when music directors and supervisors have calls out for specific themes for specific projects. If you're answering that sort of call, you may not have to send something fully orchestrated and produced, per se. You can often just create a piano sketch so the people listening know where you want to go with it. Particularly with filmmakers, if they need some ideas, it may be appropriate to send thematic ideas done only on a piano. It doesn't need to be fully dressed.

How can composers find out about calls for themes like that?

They really need to be in contact and build relationships with music directors from various television networks, more so than with film producers and directors. You can get that information from *Film and Television Guide*, published by the Music Business Registry (musicregistry.com). Those books are good for two or three years and they list supervisors, composers, representation, editors, libraries—it's the best $100 you can invest if you take your composing career seriously. Good sources and good contact information are a huge help if you want an edge up. If two composers are working together, they can even split the cost and share resources.

What general advice can you offer to composers who want to get their music heard?

First of all, write as much as possible and know what else is out there. You have to know who your competitors are. You also have to be ready to take a lot of free gigs before you can get paid.

Also, go to film festivals. Composers are generally the least represented group at film festivals, and of course, they're a great place to meet filmmakers. If you have a CD, then you have the opportunity to

Licensing Lingo

When licensing a track for use in film or TV, the ownership of any recording is split into two distinct portions:

- **Master rights:** These belong to whoever owns the specific *recording* that listeners experience
- **Publishing rights**: These belong to whoever owns the copyright for the *composition* that was recorded.

For example, if you decide to lay down your own version of "Sweet Child of Mine" and weren't an original member of Guns 'n' Roses, then you would own the *master* rights to the resulting track, but the band (and/or their label or other entities they made deals with) would still own all of the *publishing* rights. To license your recording for use in film or TV, you'd have to get permission from *all* parties involved. If you write, produce, and record your own music, without using any sampled material that belongs to someone else, then 100 percent of the publishing and master rights are yours.

Performing rights organizations (or PROs) such as ASCAP, BMI, and SESAC monitor public performances (live and recorded both count) of published works and pay royalties for a song to whoever owns the publishing rights. So if you happened to write the theme song to a sitcom destined for rerun immortality, you'll likely have some major royalty checks rolling in for years to come.

For more about PROs, visit ascap.com, bmi.com, and sesac.com.

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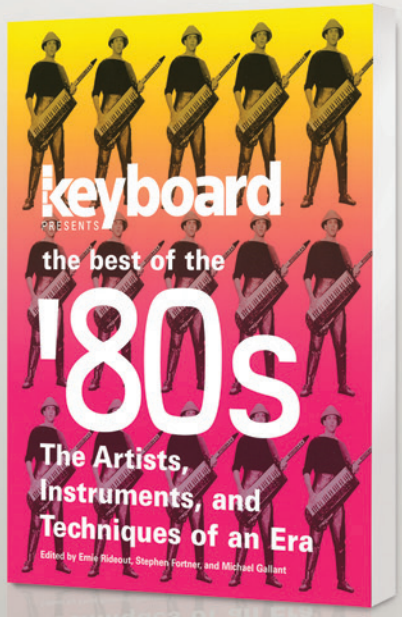

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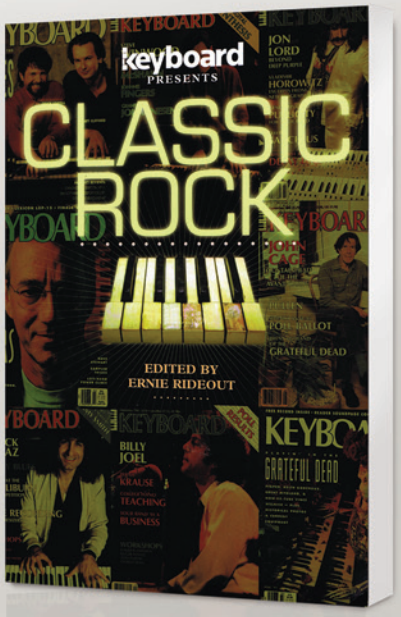

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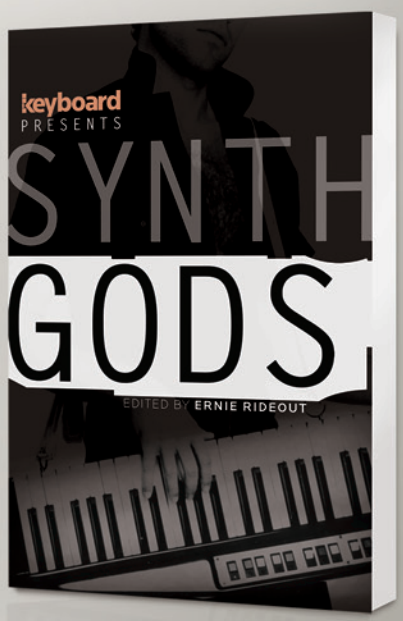

SYNTH GODS

Culled from the pages of *Keyboard* magazine, this book spotlights artists who did much more than just play synthesizers: they changed the course of music history and inspired generations. Featuring in-depth profiles of Jan Hammer, Wendy Carlos, Rick Wakeman, Brian Eno, and others, this book delves into how these new, untested boxes of circuitry captured the imagination of so many legendary artists.

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put it right into the hands of directors. I've seen composer friends of mine get work that way.

Another simple thing is to put your best cues on a CD and send it to people. Build each CD or playlist around a *theme*—a bunch of love songs, for example. Want to work on horror films? Bundle up some great suspenseful cues for a thriller. If you've composed and recorded the music completely by yourself, and you own the rights to the music and the publishing, that can also be really useful. This is because if you're the only person that TV and film clients have to deal with to negotiate a license, it makes it possible for them to get the music quickly and easily, and to use it immediately. Composers should also consider taking older cues that they own, repackaging them, and sending them out.

Should up-and-coming composers look for publishing deals?

Getting a publishing deal in the beginning of your career is not a good idea. Publishing companies want to see that you have some existing income streams before they sign you, and as a composer, it's hard to get income in the first place. It's good to hold on to your publishing rights as much as possible, since most composers are engaged on a work-for-hire basis—which means that you don't actually own the music once it has been created.

So the only negotiable thing is often publishing. If composers are savvy enough, they'll retain publishing rights as much as possible, unless they're getting paid a good amount and a TV show insists on getting a cut of publishing as well.

It sounds like a tough world to break into.

It is, but one gig gets you another, and all you need is that first gig to get started.

For more tips from **Brooke Wentz**, check out her book, *Hey, That's My Music! Music Supervision, Licensing, and Content Acquisition*, published by Hal Leonard Music Pro Guides. You can visit her online at rightsworkshop.com.

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Korg KRONOS

by Stephen Fortner

Honey, they shrunk the OASYS. Well, its weight and physical size. In nearly all other respects, the Kronos, which debuted at Winter NAMM 2011, equals or surpasses the features and sounds of Korg's groundbreaking (and now discontinued) do-it-all behemoth. More significantly, Korg shrunk the price from the OASYS' rock-stars-only $8,000 to a level that's competitive with the other flagship workstations and multi-sound-engine gig keyboards currently on the market. Let's dive in and try to answer the intentionally provocative question we asked on this issue's cover.

Getting Around

Got a gig that requires a tuxedo? With its piano-black cheek blocks, burnished gun-metal body, and icy white LEDs that light the buttons and main joystick, the Kronos looks like it's already wearing one. In the studio, the printing on the panel looked readable enough, but tended to wash out under changing stage lighting. Fortunately, the "Control Surface" view is an onscreen duplicate of the knobs, faders, and all the buttons that select pages of functions for them. You can see (and change) all the assignments from here, and thanks to the visual correspondence between screen and panel, the Control Surface view is the best way to get fluent in using the physical controls.

The OASYS' touchscreen was larger, but the Kronos' is higher-res: 800 x 600 as opposed to 640 x 480. Those extra pixels make small fonts more legible. Single-touch operation may seem old school, but unlike today's smartphones, you can navigate the Kronos with a stylus or fingernail, which I found works best when selecting stuff from option-packed pop-out menus. The screen almost always refreshes instantly when you do something—some other keyboards have some catching up to do there.

Editing is made easier by several ways of changing values. Let's say you tap a filter cutoff knob onscreen. The Value fader to the display's left will sweep it quickly, while the main data dial to the right moves it slowly—coarse and fine. You can also use the increment buttons, or type exact values on the keypad.

The only physical controls you give up compared to the OASYS are the velocity-sensitive pads that triggered drums or memorized chords. In their place is a touchscreen page with eight playable strips—the vertical axis translates to velocity.

I will say that Korg has favored a low-profile look over a touchable feel—I prefer the chunky, rubbery knob and fader caps on the Yamaha Motif ES and subsequent models, not to mention the slightly longer throw of their faders. Points for the Tap Tempo button, but what—no

Specifications

PROS Best acoustic pianos ever in a workstation. Electric pianos and drawbar organs could justify a keyboard in their own right; so could the virtual analog synths. Overall sound quality and diversity are stunning. Does 16-track audio recording. Lots of effects, and they all sound great. Plenty of polyphony for multiple synth types in a song or combi.

CONS Sample preload on power-up is convenient, but makes for long boot time. Neither sample RAM nor internal SSD are user-upgradeable. Segregation between HD-1 and EXi programs seems odd. Difficult but not impossible to hit that polyphony ceiling with dense songs or combis.

POLYPHONY Varies with instrument type; 80–200 voices.
RECORDING 16 MIDI tracks plus 16 audio tracks. Extensive automation and MIDI filtering. Track, measure, note, and audio waveform editing.
SAMPLING Full audio processing and editing functions, including sample-to-track and assigning loop slices to MIDI notes. Can sample to 2GB RAM or 30GB SSD.
SIMULTANEOUS EFFECTS 16 (12 insert, 2 master, 2 total).

PRICE
61 keys | List: $3,499 | Approx. street: $3,000
73 keys | List: $4,350 | Approx. street: $3,500
88 keys | List: $4,750 | Approx. street: $3,800

korg.com/kronos

dedicated octave shift buttons? Instead, the assignable switches above the pitch/modulation joystick do this on a per-sound basis.

Synth Engines

The Kronos comes closer to the experience of having a music laptop stocked with your favorite virtual instruments than any self-contained keyboard yet has, minus the usual computer headaches. Seven of the nine instruments here were either originally part of the OASYS or later released as expansions for it, but the first two—the SGX-1 acoustic pianos and EP-1 electric pianos—are exclusive to the Kronos.

SGX-1 pianos. For me, the "bank A, program 1" acoustic piano sound has never been the strong suit of Korg workstations. Good enough for the gig, but no industry leader. The Kronos does a dramatic 180, with the best sounding factory pianos ever to show up in a workstation.

The two main piano flavors are full-bodied "German" and brighter "Japanese" grands. Both sound gorgeously detailed in recordings, and the brighter variants of each cut through a live rock mix without sounding brittle. Each piano streams 4.7GB of full-length samples from the internal solid-state drive, so you'll hear no loops, no phase weirdness, no unnatural decay, and no clunker notes with skewed harmonics. Switches between the eight velocity layers are nigh imperceptible.

Lid position, sustain pedal resonance, mechanical noise, and release sample volume are all adjustable, as is whether you hear the stereo picture from the audience or player's position. The best pianos in a plug-in like Synthogy Ivory use several times more memory, and you will hear that difference listening carefully to solo piano pieces. I also wouldn't say the Kronos deals a clear drubbing to high-end digital pianos like the Roland V-Piano or Yamaha CP1. But the fact that those are more relevant comparisons than other workstations—and they are—is really saying something.

EP-1 electric pianos. The mighty OASYS relied on "regular" multisamples for its vintage electric pianos. EP-1 is in a whole other league. Two reed (Wurlitzer) and four tine (Rhodes) pianos are on hand, including a Dyno. Details you can tweak include hammer width, attack brightness, and release noise. You can insert one of nine virtual stompboxes, including the must-have MXR Phase 90, and cabinet modeling simulates either the Fender Suitcase amp or the internal speakers of a Wurly. How does it all sound? *Real*. Bass bark and mid-high pop jumps out of the speakers when you spank the keys. Play delicately, and you'll get beautiful ballad timbres. Ask for the dynamic range between those extremes, and you'll get all of it. A+.

CX-3 organ. Korg recently discontinued the "new" CX-3 as a standalone B-3 clone, but it lives on inside the Kronos. You get splittable upper and lower drawbar parts (but no bass pedal part), and Korg's EX drawbars if you want to add four harmonics not found on the real thing.

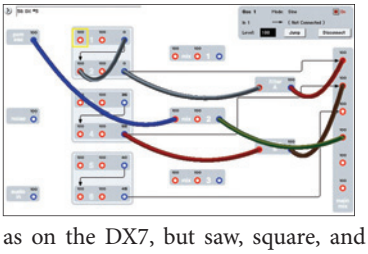
Sonic details such as leakage, percussion, and vibrato/chorus are deeply editable, as is rotary simulation—you get separate speeds, speed-up and slowdown times, and mic placement settings for the treble and bass rotors.

I give the organ model itself a grade of A, and the rotary effect a solid B+. It was one of the best available when Korg introduced the new CX-3, will still make organ fans at any live gig wonder where you hid the Leslie, and is certainly as good as it gets on any workstation. Listening in isolation, though, I felt that a couple of dedicated clones I'd recently reviewed (the Studiologic Numa Organ and Nord C2, both in May '11) treated high frequencies a bit more realistically at fast rotary speed.

AL-1 synth. Any attempt to describe this analog-modeling monster concisely is doomed to be a gross understatement of its depth. Just a few highlights are two oscillators with continuously variable waveforms; a sub-oscillator you can swap for external audio input; dual multimode filters with serial or parallel routing, plus a "Multi-Filter" that can morph between two types in real time; hard sync and audio-rate FM; five five-segment envelopes; and seemingly bottomless modulation options, including a step sequencer that can "play" any eligible destination.

More significant than any of this is the sound quality of the modeled waveforms and filters. It's simply unparalleled. There's no appreciable aliasing, even on very high notes, and no stepping or zipper noise when you sweep parameters. To sound any more analog than this, you need a real analog synth.

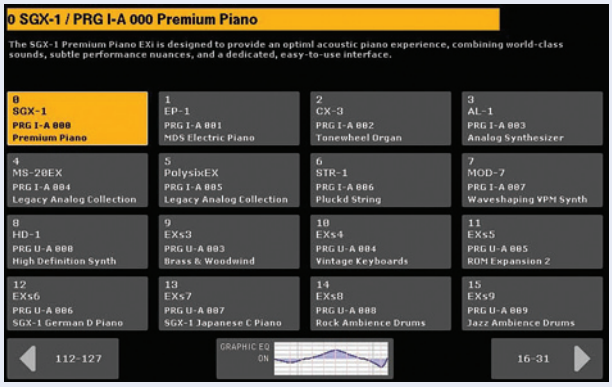
PolysixEX and MS-20EX synths. Know what I don't like about these replicas of Korg's classic Polysix and MS-20 analog synths? Nothing! In short, they sound like the originals. Only with more polyphony and the ability to be layered with other sounds, routed through effects, and modulated a zillion ways from Sunday. Korg elegantly handles the MS-20's patch panel on the touchscreen: Tap any jack twice, and a flashing yellow square surrounds it. Tap the second jack, a patch cable appears, and your connection is made. The Kronos won't let you do things that don't make sense, like connecting two outputs together. If you're new to synth programming, either of these synths serves up more instant gratification than AL-1, and both have markedly different sonic characters as well.



MOD-7 VPM synth. Imagine a Yamaha DX7 with a modular patch panel that lets you alter or override the algorithms for how the operators interact. Imagine that the operators could make not just sine waves as on the DX7, but saw, square, and triangle—or use a waveshaper to get more harmonically complex results. Imagine you could also use multisamples as modulators, or just patch them in as a separate layer. That's the very tip of the iceberg of MOD-7, a variable phase modulation (VPM) waveshaping synth. If you don't need a sound designer's paradise, just enjoy the factory sounds, which range from DX-like to surprisingly analog sounding—a testament to how sonically versatile FM synthesis can be. The kicker: If you can get original DX7 sys-ex files onto a USB drive, MOD-7 will load the sound banks.

STR-1 string modeler. I could joke about "string theory" in quantum physics, but in fact, Korg's modeling synth for plucked strings is a little easier to understand. "Plucked" understates its capabilities, as it can also sound like the virtual strings were struck, bowed, scraped with car keys, or vibrated in other ways. Anything from acoustic guitars to John Cage-style prepared pianos to resonant drones reminiscent of *Star Trek: The Motion Picture* is possible. You can decide not only what kind of string is used, but how and where it's "excited" as well. Similar to MOD-7, you can layer a PCM sample, or actually use its attack transient as your "pick." Bonus: Both MOD-7 and STR-1 give you the same dual filter setup, including the Multi-Filter, as AL-1.

HD-1 engine. All the previous sound engines come under the umbrella term "EXi" for "expansion instruments,"—ironic, because it implies they're add-ons when they seem more like the star attractions. The Kronos also packs the core sampling engine from the OASYS, called HD-1. An HD-1 program can have one or two "oscillators." An oscillator is really a complete synthesizer that plays up to eight velocity-crossfaded multisamples, any two of which can "speak" as a non-switched, full-time layer. Any of the eight slots can also hold a



Set Lists

Korg may not have been first with a unified mode to access anything you need for the gig: patches, combis, or sequencer songs. Kurzweil's Quick Access banks and Yamaha's Master mode are similar ideas. The Kronos' Set Lists take the idea to new heights, though. A Set List can have up to 128 touch-access slots in groups of 16 per screen. You can enter a name of up to 24 characters (*e.g.*, a song title) and add notes of up to 512 characters–useful for a few lines of forget-prone lyrics. You can't drag-move slots like they're iPhone apps, but copy and paste functions let you reorder them. Last but not least, a nine-band EQ is exclusive to this mode and affects all slots in the Set List. This lets you grab the faders and adjust to the room acoustics without dealing with individual programs' EQ settings.

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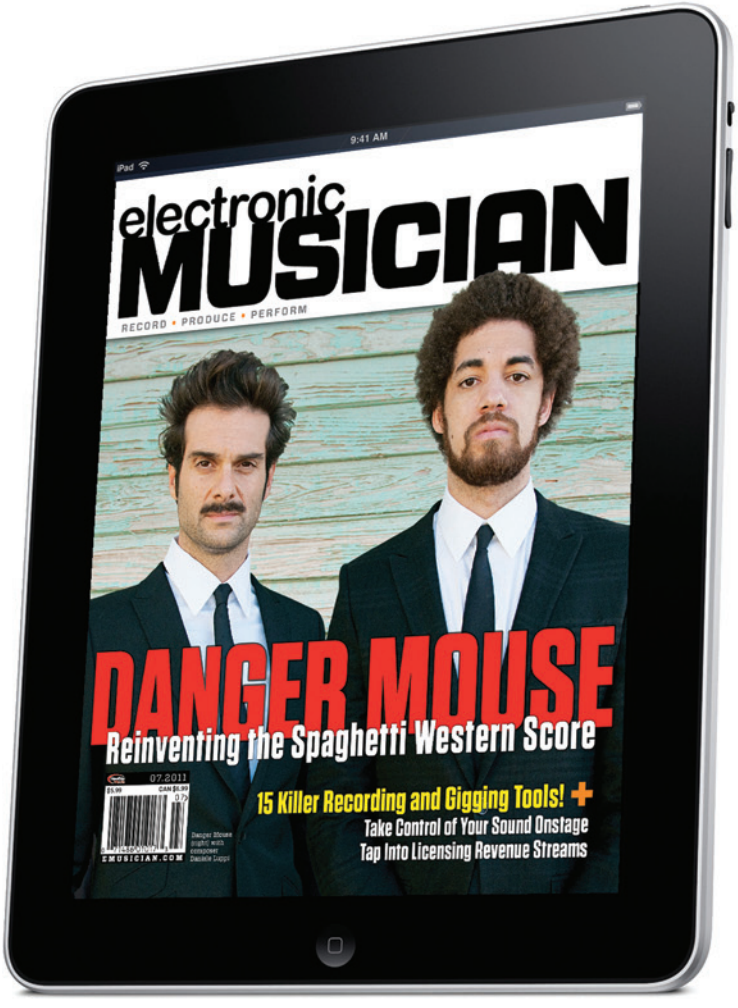

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tempo-synced wave sequence. You effectively get all of the moving, morphing madness of Korg's classic Wavestation synth, as you did on the OASYS.

On the Kronos' internal solid-state drive, you'll find every EXs sound expansion pack Korg created for HD-1 since the OASYS era; the new ESx4 Vintage Keyboards library is my favorite, and I like its Clavinets better than any that the STR-1 string modeler can cook up. (Korg, please make an EXi that does for Clavs what EP-1 does for electric pianos!) The Kronos preloads selected instruments on power-up into the 2GB of sample RAM—there's actually no factory ROM. Officially, sample RAM isn't user-expandable, though some clever folks at korgforums.com have done this (and installed larger SSD drives) fairly painlessly. Since opening the Kronos will void your warranty, we recommend waiting for Korg to make any expansion options official.

Sound Quality

I could take up the rest of this issue describing the variety of sounds in the Kronos. Instead, I'll call out what they all have in common: pristine audio fidelity. From synths to saxes, pianos to piccolos, and tympani to TR-808s, everything sounds smooth, rich, and not at all grainy. Things that are supposed to be punchy, like kick drums and synth bass, kick you in the gut. Things that are supposed to be crystalline, like wave sequences you'd layer over pads, swirl around your head. Things that are supposed to be warm, like analog brass, are.

Is there any sound category where the Kronos could do better? Acoustic and electric guitars come to mind. The best specimens come from the STR-1 string modeler, but somewhat surprisingly, my aging Motif ES has more of what I want to hear in this area. Also, while the acoustic string, brass, and woodwind patches (all from the HD-1 engine) offer lots of variety for pop and R&B lines, I'd like to see more power-user features for these sounds, such as proactive, realtime articulation management, voice allocation for *divisi*, and other stuff a composer would want for serious mockups of orchestral scores. Roland's "SuperNatural" and Yamaha's "Expanded Articulation" technology have some of these moves, and the Kronos' stellar job on piano, keyboard, and synth sounds is raising my expectations here. There's no reason a future Kronos EXi couldn't work similar magic for orchestral sounds.

Usually, no matter how good a keyboard's sounds are individually, if you do an entire multitrack production on one instrument, the results will sound kind of glassy. Some audio experts blame it on hearing everything through the same digital-to-analog converters. Whatever the reason, the Kronos seems to suffer from this less than any other keyboard in recent memory. Its EXi instruments have distinct enough characters to create a convincing illusion that your all-in-the-box song used a bunch of different keyboards.

"Smooth sound transition" is Korg's term for the fact that changing sounds doesn't cut off sustained notes. Other keyboards have done this, but the Kronos is especially fluid. You won't even hear any audio "bump" normally caused by effects switching, and it works in all play modes regardless of whether you change sounds with the dial or increment buttons, by tapping a slot in a Set List or the category browser, or via the numeric keypad. It only retains notes from the most recent sound played, so two consecutive program changes will cut off the audio—of the first program but not the middle one. This is the best implementation yet of a feature that should be required on all keyboards by law.

Dual Programs

On the Kronos, a program can be what's effectively a two-way combi—though it lives in a single program slot and you're not in Combi mode. This can be quicker and more intuitive than dealing with all the options of Combi mode, especially if all you're after is a simple split or layer.

With EXi sounds, you can simply touch-select a second instrument (SGX-1, EP-1, etc.) under "EXi2" on the "Common" page and just start tweaking until it sounds good. Better, if you remember a layer you like from some other program, use the "Copy EXi Oscillator" function to grab it with all its settings intact. I do wish this function let you browse sounds by category as you otherwise can on the Kronos, but it's by bank and number only. You can also quickly set keyboard zones for each instrument, and mix their volumes using the first two faders.

You can stack any two EXi instruments, *or* create dual HD-1 programs, but you can't combine EXi and HD-1 sounds in the same program. (In fact, HD-1 and EXi programs have to live in different *banks*.) Of course, you can pop up to Combi mode and freely combine *programs* that use EXi and HD-1 sounds. All in all, creating dual programs feels less like "programming" and more like being in a virtual music store, happily stacking keyboards atop one another.

Song Recording

The Kronos' facilities here are more like a computer-based DAW than any other keyboard workstation's are. Alongside the usual 16 MIDI sequencer tracks, you can record up to 16 audio tracks to the internal solid-state drive. Audio tracks are mono, but you can link them

Keyboard Feel

Korg put fully weighted keys on both their 88 and their mid-sized (73-key) model, something we see on gig keyboards like the Nord Stage but not usually on full workstations. I found Korg's RH3 action very non-fatiguing even for extended piano practice, and just right for electric piano sounds. My synth-accustomed fingers would have preferred a bit less weight for organ and synth licks, as I had to play more deliberately and thus more slowly. A 61-key semi-weighted Kronos is also available, of course. The aftertouch did a good job of translating the full range of finger pressure to smooth sonic changes, as opposed to going too quickly from zero to full.

Audio examples.

Video: First impressions in the studio.

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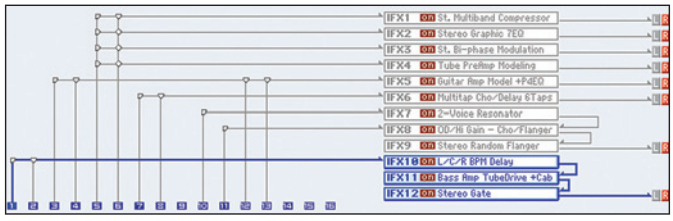
in stereo pairs. Up to four tracks can be recorded at once, and 24-bit resolution is now supported, though the sample rate is still fixed at 48kHz. The two balanced 1/4" audio inputs around back each have a trim pot and mic/line switch, but neither handles high-impedance signals, so you'll need a preamp to get proper tone from most electric guitars. Other input choices include optical S/PDIF, any of the Kronos' internal busses, and even streaming over USB, as the Kronos is also a USB 2.0 audio interface.

Audio and MIDI track mixers are on separate screens for space reasons, but a unified Track Edit view shows all tracks together, along with the master track that handles such things as in-song tempo changes. Here, you can issue track-based, measure-based, and (for MIDI) note-based editing commands, as well as do step recording. Some commands take you a level deeper, where you'll find features like a MIDI event list and zoomable audio wave editors.

The sequencer/recorder is so similar to the OASYS—virtually identical, in fact—that instead of excavating more features I'll just say that recording on a standalone keyboard doesn't get more powerful than this. Any nitpicks I have don't concern what you can or can't do, but occasional quirks of how you do it. For example, I'd prefer that touching the onscreen fader for a given MIDI track let you play its sound on the keyboard. Instead, you have to select the track from a pop-out browser above the mixer area. Along similar lines, the Track Edit overview could use a zoom function and a more visible play wiper than that little yellow dot that ticks across the timeline.

Effects

Both for sheer effects power and for handling routing, the Kronos slams



it out of the park. You can run up to 12 insert effects simultaneously, plus two "master" (send-based) effects. Then, two "total" effects are on the final output, downstream of any other routing. Good choices for this stage include a multiband compressor, mastering limiter, reverb, or any other final spit 'n' polish.

Best of all, when dealing with complex songs or combis, or processing external audio through the effects, you can bring up routing diagrams (shown above) that make it crystal clear what's going through what—no small feat given the extensive bussing possibilities. As to effect types, about the only thing I couldn't find was convolution reverb (though there are plenty of conventional reverb options), probably because it's such a CPU-hungry process. For overall sound quality, these effects easily compete with many dedicated plug-ins.

Performance Enhancers

Even though we're running out of room and the following features aren't new to the Kronos, I'd be remiss not to mention them, as they add to the playing and composing experience.

KARMA 2. For the uninitiated, this latest iteration of programmer Stephen Kay's realtime music generator can be oversimplified as a

multitimbral, polyphonic arpeggiator on steroids—hence this section's title! Depending on how it's set up, it can sound close to arranger auto-accompaniment, create choppy dance floor effects, roller-coaster into unexpected musical twists, or do anything in between. It's a world unto itself, and you can learn how it works at karma-lab.com.

Drum Track. Want straight-ahead rhythmic accompaniment? Either preset or user-created drum patterns can be set to play when you hit the keys. You can set the keyboard zone that triggers the pattern to start, mix any pattern with any kit, and even transpose the drum map by half-steps with the Shift parameter, resulting in subtle to dramatic changes in the hits. Note that with some programs, KARMA will have drumming plans of its own even if the Drum Track isn't active—though you can sync the two up.

RPPR. Short for "Realtime Pattern Play/Record," this long-standing Korg feature lets you record patterns using the sequencer, then assign them to keys for tempo-synced triggering. Patterns can also be set to trigger at pre-determined points in an otherwise linear song recording.

In-track sampling. One of the many abilities of the Kronos' full-featured sampler is to assign a given bit of sampled audio for triggering via a MIDI note in the sequencer. In ReCycle fashion, you can also slice audio according to the transient peaks, then trigger each slice separately, or time-stretch the lot to song tempo.

Vector joystick. Able to map multiple parameters to its X and Y axes, the Kronos' "other" joystick is, at minimum, a high-powered macro-morpher. The "vector envelope" can even automate a series of joystick moves in sync with tempo. As on the classic Wavestation, vector envelopes are used to particularly animated effect with wave sequences, but nearly every program in the Kronos employs this joystick in some musically pleasing way.

AMS. "Alternate Modulation Sources" is Korg's term for programmable modulation routings—they're alternate relative to the defaults. The real power is in the AMS *mixer*, which is how you tell the Kronos, "Modulate this with that, by way of another thing." A simple example is vibrato: varying oscillator pitch via an LFO, with the joystick controlling depth. But the selectable mixer algorithms can get much more sophisticated about how the two modulation sources interact—they can add up, multiply, offset one other, or use more complex if-then logic. Maybe only hardcore sound designers will spelunk this deeply, but it's nice to know that whether you're an audio mad scientist or just want awesome Rhodes and synth sounds for "Living for the City," the Kronos isn't about to let you down.

Conclusions

Every once in awhile, a pivotal instrument truly raises the bar, and thus sets the tone for future industry competition, about what a given type of keyboard—workstation, analog synth, drawbar organ, stage piano—can and should do. This sure feels like one of those times. As discussed, there are some acoustic sounds the Kronos doesn't render with the highest standard of playing realism—at least not right now. But right now, if I had to pick one keyboard to be marooned with on a desert island, the Kronos would be it. No other single product does this much, this well, all at the same time, at this price or anything close to it. That's our definition of a Key Buy. k

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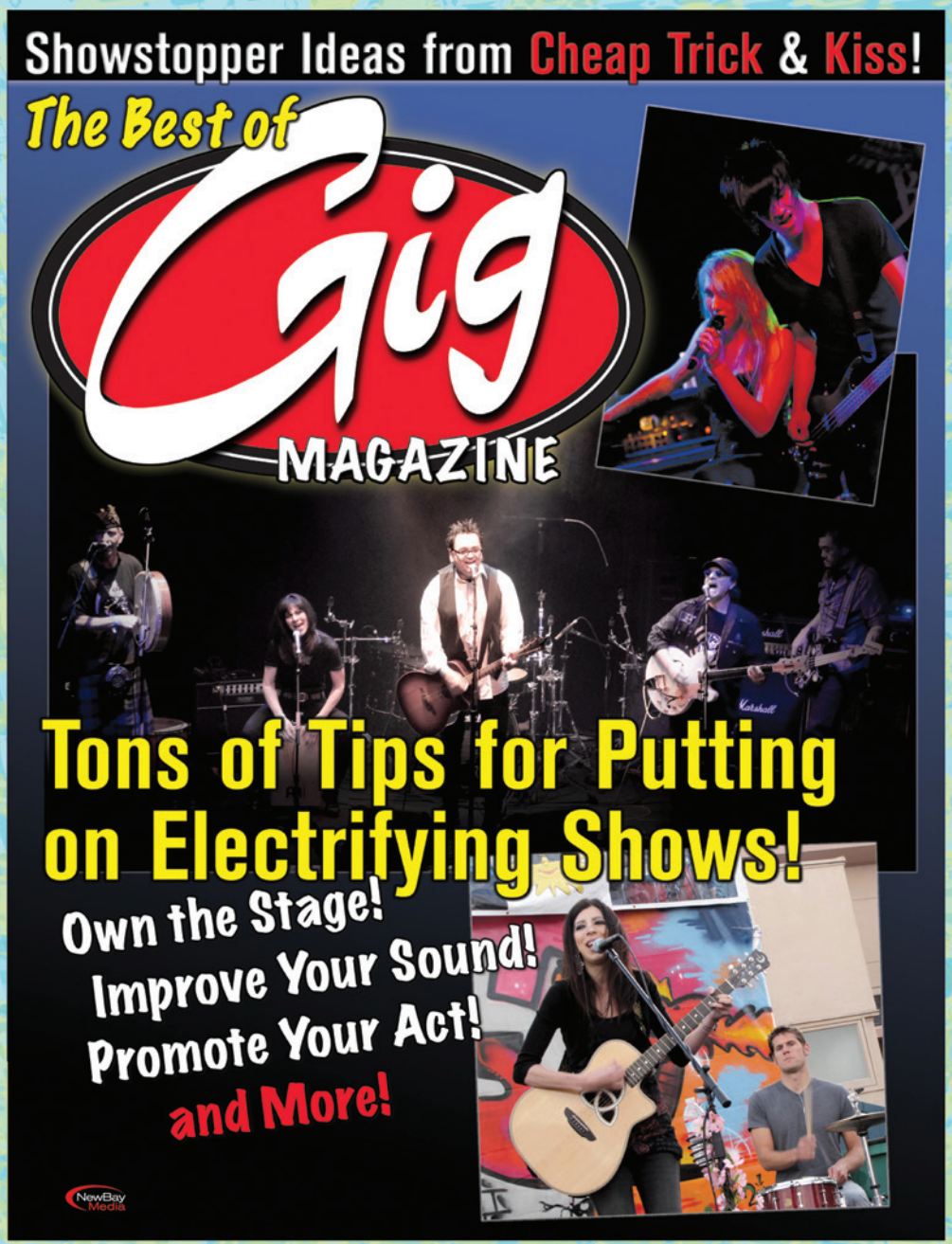

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Yamaha MOX8

by Tony Orant

With the MOX, Yamaha has come up with an affordable yet powerful synth workstation predominantly aimed at home enthusiasts and weekend professionals. You can think of the MOX as a Motif XS with a smaller, non-color display, no user sampling or Ethernet port, fewer simultaneous effects, and a maximum polyphony of 64 voices as opposed to 128. They also added a built-in USB audio interface, which makes it a cool master keyboard if your live rig also includes soft synths.

In virtually all other respects—sounds, sequencing, and all the ways you can create and interact with the onboard musical phrases and rhythm patterns—it works identically to the Motif XS. While this provides plenty of compositional inspiration, the portability and price make it an especially good live performance keyboard. As we've extensively covered Yamaha's sequencing and phrase-based music creation in previous Motif reviews, we'll focus on the virtues of the 88-key MOX8 for gigging.

Sounds

With over 1,200 very impressive presets, it won't be hard to find sounds that appeal and inspire. As a long time user of the Yamaha S90ES, I'm quite familiar with Yamaha's sound sets, and had no trouble filling up the Favorites slots with everything I needed. My favorite pianos are the "Full Concert Grand" and "Monaural Grand," though I have to admit that I still prefer the 700MB piano in my S90ES. That said, I found the "Piano Back" voice inspiring to play, and the "Tacky Piano" was very reminiscent of the Kawai Electric Grand (which had a harder, slightly thinner sound than the Yamaha CP70), and really cut through the twin guitar assault of the '80s "hair band" I perform with, especially on songs like "Once Bitten Twice Shy" and "All Summer Long."

Speaking of electric grands, the MOX's "CP70 Chorus" sound finally delivers: Previous attempts at that sound from earlier Motifs never really inspired me, but this one had me riffing on Peter Gabriel. A quick twist of the Chorus send knob, and you're there!

Yamaha has always kept it real when it comes to electric pianos, and two of my favorites are the straightforward "Vintage 74" and "Phaser Vintage," which has just enough effect to sound like an old Mark I pumped through an MXR Phase 90. I use the "Early Fusion" EP patches on my Motif Rack and S90ES all the time, but the updated version here is even more happening, and a little more subtle. "1983" will get you playing in the same vein; hitting the AS1 button kicks in a little extra reverb for as long as you hold it down (you can reprogram the buttons for latched or momentary behavior on a per-patch basis), which really helps a well chosen lick to stand out. Fans of transistor pianos

Specifications

PROS Most of the Motif XS sound engine at a far lower price. Very lightweight and compact for a weighted 88. Split/layer function is more intuitive than on full Motifs, and lets you make gig setups very quickly.

CONS No aftertouch. Silk-screening on panel is very hard to read on dark stages. Pitch and mod wheel placement at upper left corner feels awkward.

CONCEPT Compact, affordable synth workstation derived from Motif XS, with built-in audio interface.
POLYPHONY 64 voices.
MULTITIMBRAL PARTS 16 plus A/D input (external audio).
SEQUENCER Approximately 226,000-note capacity, 16 tracks, linear pattern and song modes as well as step recording, stores up to 64 songs.
KEYBOARD 88 weighted keys, Yamaha Graded Hammer Standard action.
INCLUDED SOFTWARE Cubase AI5, YC-3B drawbar organ and Prologue virtual analog VST synths, and MOX editors.
WEIGHT 64 voices.
POLYPHONY 32.6 lbs.

PRICE List: $1,999
Approx. street: $1,700

yamaha.com

will recognize "Ahr Am I" and find themselves digging into Doctor John's "Right Place Wrong Time" if not some vintage Genesis. "DX5 Zero" is one of the few FM electric piano sounds I've ever liked; "Vintage Clav" has a killer touch-responsive wah.

In the orchestral area, I fell in love with "French Horn" and have been a sucker for the "Sweet Flute" sound since I first bought my Motif 8 "classic." Since then, Yamaha has really upped the ante with many of their vintage synth sounds, and I found myself gravitating to the Moog-like "Feeling" and "DetunedVintage" patches a lot.

"Space Lead" evokes Wakeman-esque Minimoog leads, and "Vintage Saw" is a ripping lead sound with an added fourth interval—totally fun! If your synth tastes veer away from prog rock and towards electronic dance music, you won't be disappointed. Many of the Performances (multitimbral setups) will get you going in that direction with the press of the first key.

On the Gigs

I played the MOX8 with a classic rock cover band whose repertoire runs the gamut from Joe Cocker to Deep Purple, and just about anything you can think of from 1965 to 1995. So I need everything from horns to B-3 organs, electric guitars to Mellotrons. While I've always preferred dedicated "clonewheel" organs to sample-based sounds from any all-purpose workstation, I used a few from the MOX very enthusiastically, especially "Crunchy." It worked great for Deep Purple and Tony Kaye-era Yes sounds, and I also used it for playing parts that might otherwise be played by a rhythm guitar.

Many of the MOX8 presets have "AS1" or "AS2" in their names, indicating that some sonic or performance enhancement happens when you hit the corresponding Assignable Function switch located just above the second *G* key from the bottom. With the "Crunchy" organ, AS2 added the harmonic percussion you'd expect, and AS1 was the fast/slow toggle for the rotary effect. Though the MOX8 (like many keyboards) also used the modulation wheel for rotary speed, I preferred the button. On the MOX8, I found the placement of the pitch and mod wheels at the left rear corner of the panel to be an awkward reach—a small tradeoff for the compact size and portability.

On a couple of the acoustic guitar sounds, the AS button replaced the full tone of the guitar strings with harmonics. I then lost ten minutes of my life pretending to be Steve Howe and playing the intros to "The Fish" and "Roundabout."

In my four-piece Pink Floyd tribute band, we have only one guitarist, so I cover secondary guitar parts live. "Big 12 Strings" was a nice fit for "Wish You Were Here" and "Hey You," and I'm still a huge fan of "Voodoo Man," a distorted wah guitar that dates back to Yamaha's 88-key S80 synth. While a little over the top, it found its way into things like "Another Brick in the Wall" for the three-note lick that doubles the vocal hook, and the reprise of that lick underneath the guitar solo in "Hey You," where it harmonizes with the bass. Yes, I was having too much fun.

As I didn't have a lot of time to prepare the MOX8 for gigs, I was very pleased at how quickly I was able to put the stock presets to use. Given a little time, I could easily have tweaked them to recreate sounds for all these cover songs more accurately.

As to keyboard feel, the MOX8 keybed was very playable for piano and synth parts, never seemed like it was bottoming out, and felt quite

expressive for most everything I played on it. One thing you get on the S90/S70 series but not here, though, is aftertouch.

Navigation and Programming

I've done a lot of programming for my S90ES, Motif 8, and Motif Rack over the years, and it would've been nice to load those sounds, Performances, and Master mode setups from a USB stick, but the MOX8 was not directly backward compatible with these older synths. However, editors available from developer John Melas (jmelas.gr/motif) support conversion and loading of Voices, Performances, and Masters into the MOX from the Motif XS/XF and S90XS synths. Luckily, the MOX8's "Performance Creator" split and layer functions were a snap to use, and I put together two sets of the band's repertoire quickly and painlessly. For example, to cover some Jethro Tull classics, I started in Voice mode and grabbed "Concert Grand." I then hit the Split button and the display immediately let me search sounds by category, so I chose "Sweet Flute" from the Brass/Winds category. After assigning the split point, naming the Performance and saving it, I now had a setup good for three songs. It took me less than two minutes, and I hadn't even cracked the manual.

Master mode is a Motif and S-family feature that lets you put single sounds, Performance multis, and sequencer songs in the same bank, in whatever order your set list demands. Recreating Master setups to control my Motif Rack was also a breeze, as Yamaha has kept the same work style in place.

I must confess that had I not done this work at home, I would've been unpleasantly surprised at the gig when I had a hard time reading the MOX8's panel on a darkened stage. While I can navigate the S90ES in the dark easily thanks to its glossy panel with white lettering, I found the matte texture of the MOX8's body combined with the grayed-out lettering required a flashlight. I'm sure that once I learned the instrument panel, it'd become second nature, but Yamaha should rethink the color choices for live performance. I had no trouble reading the panel at home in my lit rehearsal space, and most functions were where I expected them to be based on my S90ES. On the plus side, the LCD is very easy to read, and retains the big lettering and layout of my S90ES. As on that synth, when changing presets, you get a preview of what else is in that bank. In fact, the MOX8 was so easy to use that I only cracked the manual *after* I'd done the first gig with it.

Conclusions

Being a workstation, the MOX8 is geared toward music production in the home studio. We've seen what a great all-purpose gig keyboard it also is, especially if you're looking for all the sound and most of the features of the Motif XS on a budget. While it has half the polyphony of a current Motif or Yamaha S-series synth, it's dramatically less expensive than either of those—go online and look up the difference yourself.

The sound set is spectacular at any price, and at just over 32 pounds—seriously light for a weighted 88—you won't be reluctant to take it to any gig regardless of what the load-in is like. While I wish all companies would do away with the "wall wart" AC supply (though this saves on cost and weight) and that the MOX used a different color scheme, I wouldn't hesitate to take the MOX to any gig. It's the Motif XS for the rest of us, and wins our Key Buy for pure bang-for-buck. k

Audio Interface

Other Motifs have done audio interfacing, but the built-in interface on the MOX has the best hands-on factor yet. Via USB, it streams four channels of audio—whatever is plugged into the stereo audio inputs, plus the main L/R mix from the synth itself—to your computer. Right on the front panel, you can adjust the gain (mics, line-level signals, and guitars are supported), switch between hearing your overall mix and direct monitoring of the audio inputs, and separately adjust the volume that's coming back from your DAW. Combined with the onboard software control surface features, that makes the MOX an attractive hub for songwriters on the go. Check out our tests of the MOX interface, and hear a demo song that the very funky Ellis Hall recorded through it, at keyboardmag.com/september2011.

A Yamaha Clonewheel?

Yes—in plug-in form, and it's included with the MOX. It's Mac or PC compatible, but Mac users should note that you need a VST3-compatible host such as Cubase AI5. Fortunately, that also comes with the MOX, as does Prologue, a very cool virtual analog soft synth with three oscillators. There's some real attention to detail here: separate settings for both speeds of both rotors, transition time, mic angle, and rotor balance. On the main page (shown), you get three drawbars for harmonic percussion volume, adjustable percussion decay, and a toggle for whether the percussion triggers on the initial notes only (as on a real B-3) or fully polyphonically. You can decide whether turning on percussion cancels the 1' drawbar, and set separate click levels for key-on and key-off. Everything to do with the emulation of the organ itself sounds great, though the rotary effect is not as realistic as what we've heard from today's leading clones. No biggie, as you can always add your plug-in rotary effect of choice as an insert.

SOUNDCLOUD Audio examples.

More on the MOX's recording features.

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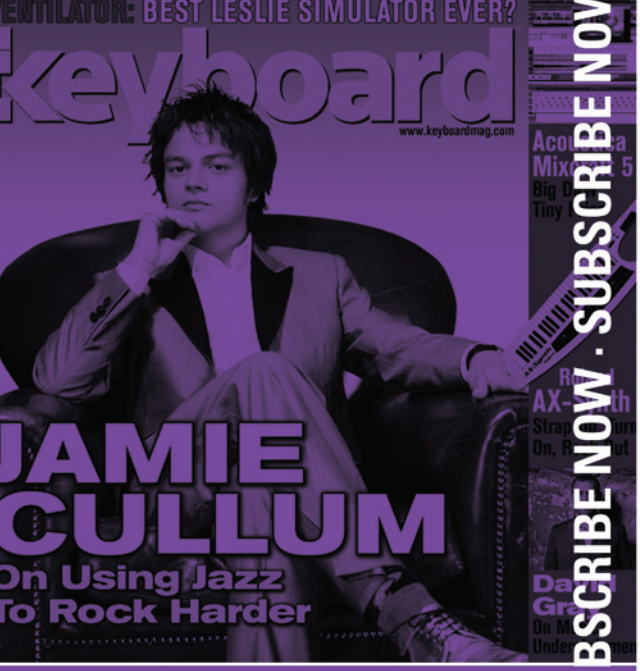

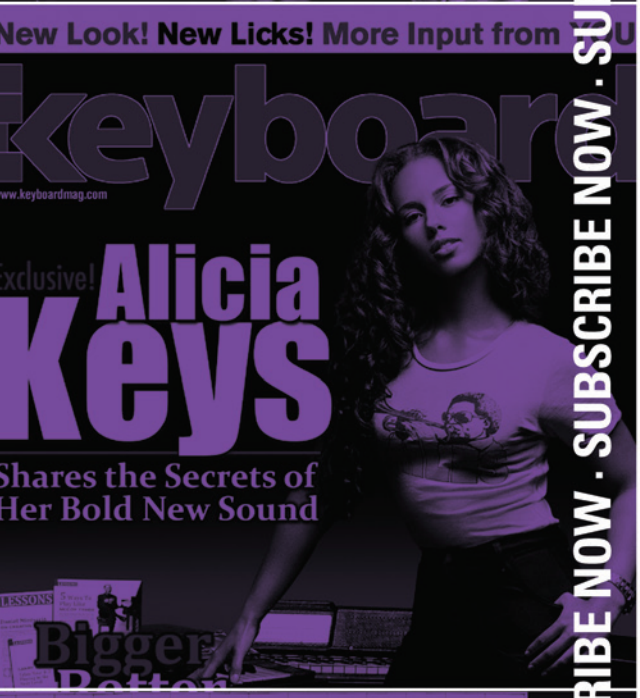

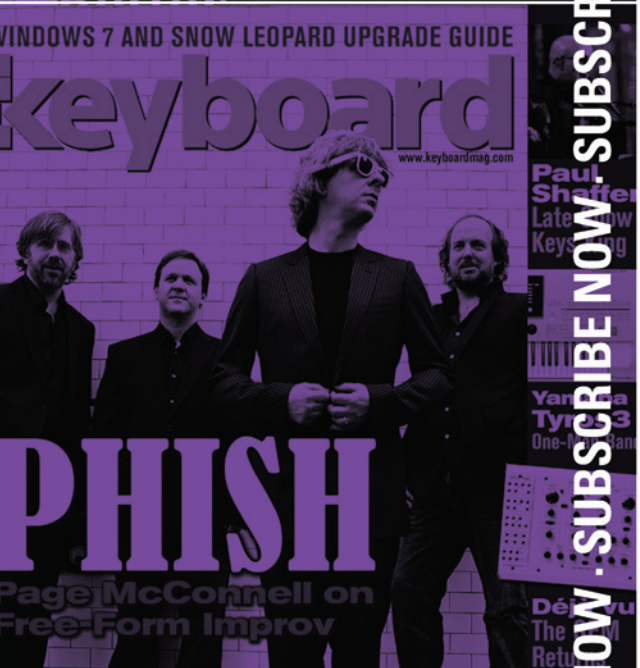

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The main screen now consists of dockable and floatable frames. The Inspector with dual channel strip is on the left, and the Browser (right) has been tabbed to list audio plug-ins. In the tabbed Multidock at the bottom, I've hidden various parts of the mixer so that it's more of a meter bridge.

Cakewalk SONAR X1

by Craig Anderton

Something odd happened on the way to Sonar 9: There wasn't any. Instead, Cakewalk released Sonar X1—an "extreme makeover" of the venerable program. It was a bold gamble; when you make changes this big, people tend to either embrace them or reject them outright.

Sonar X1's initial release had several bugs, but although there was disappointment in the Cakewalk forums, there was also a clear sense that Cakewalk was onto something. In a relatively quick succession of fixes, X1 has rewarded the faithful: What at first looked like just a graphics facelift has proven to be considerably more.

It takes a while to "get" X1 because in quite a few areas, you have to unlearn what you knew. I had a crash course in it because one of my projects is a Sonar X1 Master Class DVD. I thought it would simply involve transferring what I knew about 8.5 to a new environment, but the more I worked with X1, the more I realized that it's a major change.

The "Skylight" Interface

A lot has happened with DAWs since Sonar was introduced over a decade ago, and X1 reflects that. The most obvious change is the more Euro-modern look that's easy on the eyes over extended sessions. It also sports a "unified" interface—think Sony Acid or Ableton Live—where you dock, hide, and show panes rather than open and close windows. However, you can also undock panes and move them freely (*e.g.*, floating the console view to a second monitor).

A browser brings drag-and-drop support to media (samples, loops, MIDI patterns, track icons, track templates, etc.) and plug-ins, and browses the updated synth rack. Once you get used to drag-and-drop instead of reflexively reaching for menus, it's a major time saver.

Also, most panes have edit menus within the pane itself. For example, if you're in Track view and working with clips, a set of tabs with drop-down menus for clip functions (as well as separate menus for tracks, layers, MIDI, and more) sits at the top of track view. The

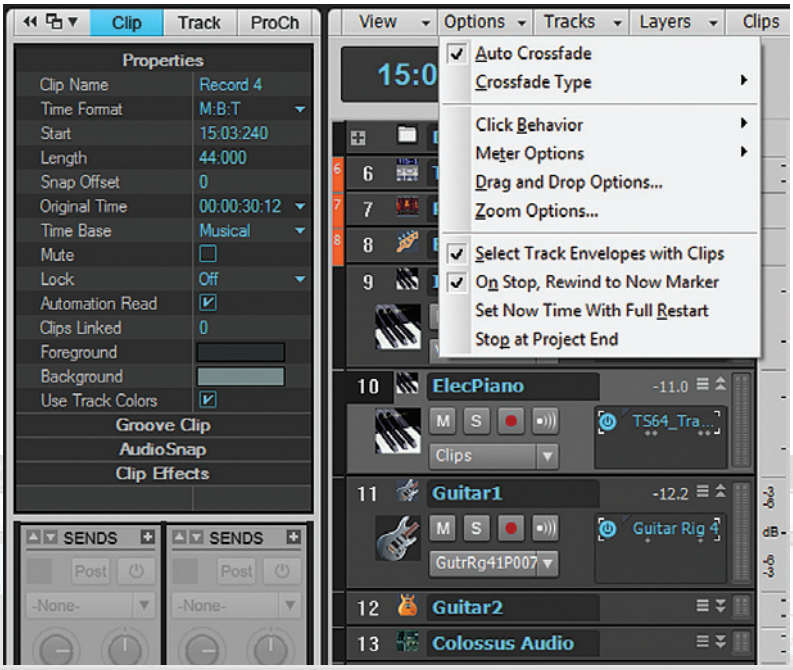

Fig. 1. Clicking on the Clip or Track tab in the Inspector reveals virtually all editable parameters that relate to the selected option, organized in logical groupings.

Fig. 2. The ProChannel is a significant new addition to the Producer Edition. Top to bottom: 1176 compressor, six-band EQ, and Tube Saturation processor.

crucial advantage isn't just the proximity of editing tools to what you're editing, but a solution to the "too many items in drop-down menus" problem. In X1, you have smaller, more manageable, more pertinent menus (see Figure 1 above).

The Inspector, which now includes dual channel strips that follow what you're doing (*e.g.*, input channel and related output, not unlike Apple Logic), consolidates far more functions than its predecessor. It has tabs at the top for Clip, Track, and the ProChannel (more on this later). Under Clip properties, you can open and close sections for Properties, Groove Clip, AudioSnap (time stretching and correction), and Clip Effects. But as with the edit menus, each of these contains a relatively small number of logically related items and functions.

As just one example, suppose you want to rename multiple clips. Click on a clip, type into the Clip Name box, then repeat for additional clips. In the same properties area, you can mute, lock, change colors, edit the start time, and more. Track properties are handled equally efficiently.

A revamped set of key commands complements the new pane/docking system. If you were dependent on key commands in Sonar 8.5, you'll be disoriented in X1 initially. Over time, though, the new ones are easier to remember—especially the "top 10," including "D" to show and hide the Multidock.

I could go on, but the bottom line is that once you adapt to the changes, your reward is a dramatic workflow improvement.

ProChannel

Aside from including the Studio Instruments suite introduced in Sonar Home Studio, there aren't significant new processors or virtual instruments in X1 except for the Producer Edition's ProChannel audio processor (see Figure 2 above), a complete channel strip you won't find in the less expensive Studio Edition. This is "hard-wired" into each audio channel and bus, and it's a honey. For dynamics, there's a choice of Urei 1176 or SSL 4000G compressor emulations, each with a dry/wet control for fans of parallel compression. The four-band parametric EQ lets you switch the high and low bands to shelving, offers three characters (Pure, Vintage, and Modern), a "Gloss" switch that adds sheen, and high- and lowpass filters with eight slopes, from six to 48dB per octave. Finally, a Tube Saturation module offers two characters, and although you won't use it on every track, you might be surprised at how often you *do* use it to add a taste of grit. What's more, you can drag-and-drop the three processors in any desired order.

For some who upgraded to X1, ProChannel was the deciding factor. The sound quality not only holds its own against third-party plug-ins, but consolidating these elements into a single channel strip saves time compared to inserting plug-ins individually. Of course, the effects bin for other plug-ins is still in place, and the ProChannel can go pre- or post-effects.

Effects Chains

Sonar's Effects Chains are a useful complement to Track Templates. Think of Effects Chains as do-it-yourself multi-effects—you can insert a bunch of plug-ins into an effects bin, then save the combination and all settings as an effects chain. Once you recall a chain, you're not stuck with the settings—you can "extract" the effects back into discrete processors and make edits. This means that Effects Chains also make excellent "points of departure" for additional processing—they're not just for "set it and forget it" tasks. There's a limitation, though: If a Track Template

includes Effects Chains in a *bus*, they won't be recalled with the template, although the chain name appears so you at least know what needs to be loaded. Effects chains included in a *track* are recalled correctly.

The Smart Tool

This "one tool to rule them all" fulfills the potential hinted at a few versions ago. But you'll need to do your homework: You can't take full advantage of the tool without learning the nuances of using it. It's all about context-sensitivity—to move a clip, click in the lower half away from the edges; control-drag an edge to time-stretch, drag corners inward to implement fades, click on edges to trim the clip's start and end points (with or without moving the fade simultaneously), move data inside the clip without changing the clip start and end point, and more—even select a region within the clip, then click in the bottom of the region and drag to create a new clip.

Seeing a pattern yet? The Smart Tool consolidates a concentrated collection of functions so you can do most of what you need to do while working in a particular mode.

The Synth Rack

In previous Sonar versions, this always seemed like a good but not quite fully realized idea. In Sonar X1, it's been tweaked into a very useful feature. When the browser is docked to the main workspace's right or left sides, you can do the main functions: insert synths and ReWire devices,

Specifications

PROS Sleek, efficient interface. Dramatically improved workflow thanks to Smart Tool, dynamically-changing screen sets, more drag-and-drop, and consolidation of functions into view-specific menus. ProChannel (Producer Edition only) is a superb addition.

CONS Music staff view remains primitive. Although now stable, was released prematurely. New control bar design has weaknesses as well as strengths.

CONCEPT Digital audio workstation (DAW) software with multi-track audio recording and MIDI sequencing, loop processing, and built-in virtual instruments and effects.

OPERATING SYSTEM Windows XP (32-bit only), 32- and 64-bit Windows Vista and 7.

COPY PROTECTION Authorization/activation code (on- or offline).

PRICE Producer Edition | List: $499 | Approx. street: $400
Studio Edition | List: $249 | Approx. street: $200
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control track freeze, solo/mute, read/write automation, and so on. If you undock it, or put it in the Multidock where you can tab among multiple views (mixer, loop construction, piano roll, etc.), then there's the space to assign strategic soft synth controls to the assignable controls section, so you can tweak parameters and do automation without having to open the synth's GUI. Sonar could do this kind of control assignment before, but it always seemed to involve awkward re-sizing and moving of the rack.

And Also . . .

In addition to a revamped MIDI arpeggiator, there are three more principal features unique to X1.

Control bar. The customizable "button strip" across the top has been replaced by a modular control bar with modules like the transport, tools palette, and loop module. I have mixed feelings about this. With dual computer monitors, you can see all the control bar elements. But with a single screen or laptop, you have to pick and choose what you want to display, and it never seems to be everything you want.

Screen sets. These are like layouts on steroids, as they can change dynamically as you work. Quick example: You can set up a screen set console layout with wide channel strips, but add a lot of tracks so you narrow the strips. Then, jump over to a different screen set to do some editing, then go back to the console. When you return, Sonar will remember that you left the screen set with it set to narrow strips (although you can also tell Sonar to discard any changes before switching). I use screen sets much more than I used layouts.

Edit filter. Each track has an edit filter that specifies what you're editing: clip automation, track automation, clips, AudioSnap audio transients, or with MIDI, notes. This avoids the "Oops, I meant to edit the cutoff, not the envelope attack" problem because the edit filter lets you edit only one parameter at a time, even though you can choose to see "ghosted" versions of other parameters.

By the way, AudioSnap works well now. However, staff view has been only minimally improved, so don't expect significant differences there.

Video excerpts from Craig Anderton's Sonar X1 master class DVD.

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Conclusions

Yes, it takes a while for Sonar veterans to learn the "X1 way of life," and from time to time, you'll have to take it on faith that the effort will pay off. However, I've been using X1 since it came out, and the effort does indeed pay off: I get more done, in less time, with more ease than I did in Sonar 8.5—which itself had a reputation for being straightforward.

Perhaps it's an intangible that's most important. Booting up Sonar X1 puts me in a space where I'm ready to get creative. I'm sure part of it is the visual appeal, how fast I can get to work, and the high level of efficiency. But there's also some less-easily-defined mojo that Cakewalk got right—and whatever it is, that's what gives X1 its soul. k

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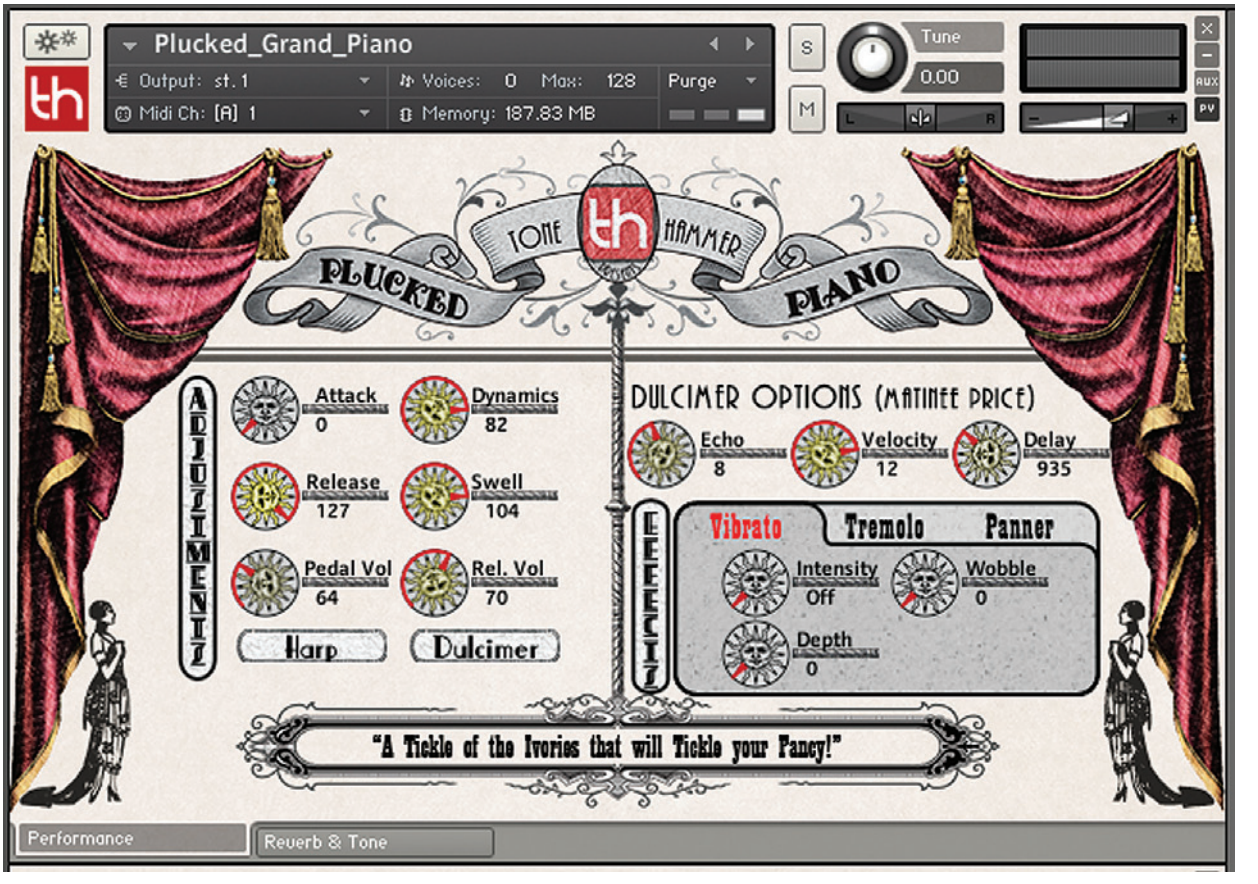

Tonehammer

COMPOSER BUNDLE 6: PIANOS

by John Krogh

Tonehammer may be a relative newcomer to the soundware scene, but in just a couple of short years, they've established a reputation for extremely high-quality sample libraries at ridiculously low prices. Many of their titles are well under $100, but more important than the bargain prices is the way in which Tonehammer approaches their sound design. Each title focuses on a single instrument, which is exhaustively sampled in a variety of ways and then crafted into a collection of presets that range from musically appropriate to wildly inspiring.

Such is the case with each of their five acoustic piano libraries, which are available individually or collectively in what they call Composer Bundle 6. To simply call these "piano libraries," however, doesn't do justice to the creative potential of these collections. Even if you already have a few favorite sampled pianos, you owe it to yourself to hear what these are about. Especially for composers, there's quite a bit of mood to be mined.

Overview

Composer Bundle 6 comprises five libraries: Emotional Piano, Plucked Grand Piano, Bowed Grand Piano, Montclarion Hall Piano, and Old Granny Piano. Emotional, Plucked, and Bowed all derive from the same grand piano, but with different performance techniques, as their names suggest. Montclarion and Granny are two different pianos, the former a grand recorded in a church, and the latter a well-used upright.

All of the titles are available only as downloads and only in Native Instruments Kontakt format (with the exception of Granny, which also supports SFZ and EXS24). I don't mind the lack of physical product (although it'd be nice to have a boxed copy), but more significant is that the full retail version of Kontakt is required in order to use Granny, Emotional, and Montclarion—they neither include nor are stable with Kontakt Player. Keep this in mind as you consider the total cost of entry.

None of the pianos are identified by name. According to Tonehammer's website, "The fancy naming and branding of the piano is irrelevant to us. We want the samples and music to speak for itself and we hope it speaks to you, too." Fair enough.

There's an obvious cinematic influence behind all of Tonehammer's libraries, and as such, none of the pianos would be a good choice

An instance of Emotional Piano. Note the impulse response menu in the bottom right corner. From here you can choose from a number of IRs that can warp the piano sound into interesting and evolving pads.

for a rock or pop gig. But that's not really the point. These instruments *ooze* with emotion and personality. TH uses the term "deep sampling" to describe how they capture the raw sample material, which includes numerous conventional and experimental performance techniques, such as scrapes, muted plucks, knocks, glissandi, and so on. (Complete PDF documentation and articulation lists can be found at Tonehammer's website.) Various audible "warts" and rough edges have been left in, giving the pianos an intimate and authentic quality that's palpable. In fact, I wouldn't hesitate to put some of these sounds in the foreground of a mix—most listeners would be hard pressed to tell that they're hearing samples and not the real thing.

Piano by Piano

Emotional. Of all the libraries, Emotional provides the purest representation of an acoustic piano. There are no odd performance techniques or added noises for effect—just a moody, full-bodied piano recorded at close range. Emo's in-your-face character is very present, with a nice woody attack and solid sustain. This is the piano to reach for when you need to pull every last heartstring. I've used this in several tracks, and it always adds a dramatic dimension to the mix.

Bowed. If you like to creep yourself out with eerie drones and effects (who doesn't?), Bowed is for you. It offers three "primary" presets (regular, short, and staccato) that sound similar to a hybrid of bagpipes, synth pad, and string orchestra. It gets weirder from there with 24 drones and nine effects presets that run the gamut from slightly foreboding to downright disturbed. Bowed also features some clever Kontakt KSP scripting that lets you stretch the samples beyond normal boundaries. For example, there's a legato mode that automatically bends and crossfades the previous and next notes in a sequence together, so that they sound much more fluid and seamless. In practice, this works quite well. Other presets make use of custom impulse responses to warp the unassuming samples into ethereal pads and evocative textures.

Plucked. For this collection, the piano was plucked and hammered, resulting in 14 presets that cover sonic territory not unlike that of a dulcimer. There's less variety compared to Bowed, but Plucked still manages to serve up a combination of powerful and delicate flavors that evoke an ancient yet familiar tone. I especially liked the special effects patches, which also benefit from custom impulse responses for Kontakt's convolution reverb.

Montclarion. Complementing the up-front quality of Emo, Montclarion is presented with three separate microphone distances: close, mid, and far. Even with the Close presets, this piano still has some distance to its sound. Montclarion also works well in cinematic settings, although it has more range, thanks to a number of plucked, scraped, and effects performance samples. One minor gripe: At high velocities the sound becomes muted and darker, not brighter as you'd expect when playing harder on a real piano. It sounds strange to my ears, but it's apparently how the instrument sounded, according to Tonehammer. If it bugs you, limit the velocity range on your controller.

Granny. Not my personal favorite, but nonetheless useful, Granny nails what Tonehammer calls "the authentic beauty of a dusty-old-haven't-been-played-since-Granny-lost-her-hearing upright piano." As you might guess, this one works well for old-time saloon numbers and honky-tonk—I could even imagine hearing it in some styles of indie rock.

Specifications

PROS Well-recorded, expertly produced instruments. Loaded with character and musicality. Bargain price. Highly inspiring.

CONS Some libraries–but not all–require full version of Kontakt soft sampler.

CONCEPT Bundle of five separate sampled pianos; includes conventional multisampled instrument and processed sound design presets, plus impulse responses.

FORMAT Native Instruments Kontakt (Mac or PC).

PRICE List: $445
Approx. street: $389

tonehammer.com

Conclusions

Sure, this is a big bang-for-buck bundle, but the combination of these individual libraries isn't just a serious value, it's a serious source of inspiration. One of the hallmarks of a great sample library is the ability to inspire new ideas and performances, and in this regard each individual piano in the collection excels. These are highly playable, creative, and musical instruments that will certainly find favor among composers of all walks. At less than $400 for the whole bunch, you can't go wrong. Highly recommended. k

SOUNDCLOUD Original audio examples.

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Korg MONOTRIBE

by Francis Preve

Saying that analog synthesis is having a renaissance is like saying that Deadmau5 is an up-and-coming producer. The fact of the matter is that analog is back in full effect—and with good reason. After a decade of virtual synths that are kinda-sorta like analog, hearing the real thing can be life changing. Of the "big three" Japanese synth makers, Korg has really started delivering the goods when it comes to affordable analog synths. After sticking a big toe in the water last year with the pocket-sized Monotron (reviewed Nov. '10), a true analog synth with the same filters as their legendary MS-20 patchable monophonic synth, Korg kicks the whole game up a notch with the new Monotribe.

Overview

While rumors of the Monotribe circulated late last year, the full specs weren't announced until last spring—and believe us, the specs are a doozy. Based on the Monotron's synth architecture, the Monotribe adds improved VCOs, a noise generator, selectable preset envelopes, an LFO that should be standard on every synth, *and* a realtime sequencer that blends the best of the step-oriented '80s approach with a bunch of interactive parameters that make it truly playable. Oh, there's also a fully analog drum machine onboard with kick, snare, and hi-hat sounds.

The Monotribe's additional amenities read like an analog junkie's wish list. Analog sync in and out? Check. External audio input for sequenced processing of other instruments through its filters and envelopes? Done and done. Battery power? Yep. Seriously, Korg has kind of thought of everything.

Sequencer

On powering up, the Monotribe loads a factory sequence that ably demonstrates its drum and synth capabilities. While you can easily replace this sequence with your own, there's only one memory slot, which struck me as a tad odd considering that this *is* a groovebox, albeit one that's obscenely easy to program.

The sequence can use four tracks: kick, snare, hi-hat, and synth. The kick, snare, and hat all have a lovely vintage sound, with a Kraftwerk-like *thwip* on the kick attack. Solid stuff. The synth track can be programmed with or without "flux." This is Korg's term for the note values not being quantized. When flux is active, you can have pitch swoops galore. When it's inactive, the pitches are discrete, even if they're not part of the twelve-tone scale. This is perfect for electro bass lines and those Dutch house *boo-boo-boo* riffs that Afrojack basically trademarked.

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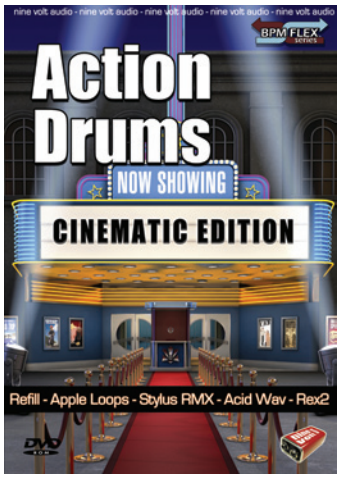

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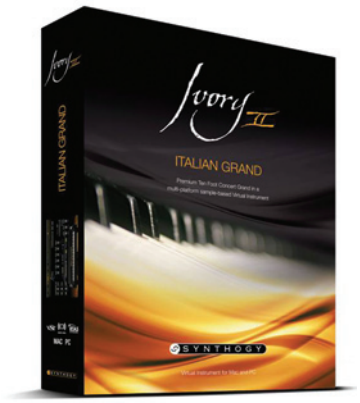

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Sound

The Monotribe's synth engine is very flexible, capable of both squelchy TB-303-style riffs and warm '80s retronica. The oscillator sports three waveforms: sawtooth, triangle, and square. The saw and square deliver as expected, but switching to the triangle raised an eyebrow. Technically, a triangle wave consists of odd harmonics and sounds like a muted square wave. Here, the triangle sounded like a sawtooth with really beefy low end. Sure enough, viewing the recorded waveform in an audio editor revealed that it's a saw/triangle blend. In an instrument like this, that makes a lot more sense thanks to the waveform's bass emphasis. Beneath the oscillator is a knob that allows you to add white noise to the signal for classic techno builds and old-school electronic percussion.

The filter is absolutely wonderful—it's creamy at low resonance settings and ravey if you turn the resonance up. In fact, at its highest settings, the Monotribe's filter can shred tweeters and eardrums without breaking a sweat, so beware if you're on headphones.

Instead of *de rigueur* ADSR envelope parameters, the 'Tribe relies on a simple three-position switch for its volume envelope. The three modes—decaying, organ-style on/off, and softened attack—do a surprisingly good job of covering the bases for a box like this. Diehards may disagree, but I was fine with this design decision.

Finally, there's a very clever LFO section that delivers both as a modulator and a timbral resource, thanks to its ability to operate in the audio frequency range. It can be applied to the oscillator, filter, or both equally, and has three modes: fast, slow, and one-shot. Fast mode is rather interesting, as it operates from 1Hz to 5kHz, so you can do everything from wah-wah to FM effects. In addition, fast mode retriggers with every note event, so pseudo tempo-synced effects are quite easy to conjure. Slow mode is free-running and operates in the 0.05Hz to 18Hz range. The one-shot mode is the clincher, though, as it forces the LFO to stop after half a cycle, which lets it double as a really cool envelope effect, with the rate knob seeming to affect things like attack, decay, and gate time simultaneously.

Speaking of gate time, the Monotribe lets you play the sequencer's gate duration via its ribbon controller when holding down the aptly named Gate button. Better still, the ribbon gestures can be recorded as part of the sequence. This is really freakin' cool.

Connectivity

The back panel is shockingly well endowed. There are sync in and out jacks, a headphone out, external audio input, quarter-inch audio out, and DC power in. There's no MIDI, but really that's not that big a deal for the following reason: The sync input responds to standard sixteenth-note audio pulses—as long as they're 15ms long. In fact, if you simply record the sync out as audio, then crop one of the pulses, put it into your favorite sampler, and play a straight sixteenth pattern, you're in business. More than a little cool.

The sync I/O is also compliant with the Roland five-volt standard. Can it trigger the sequencer in my vintage Roland SH-101 synth? Yessir. Can it slave to my DR-110 drum machine? You bet. Between the sound and functionality, the Monotribe *feels* old school through and through.

The inclusion of an external audio input is the cherry on an already delicious sundae. With it, you can send another synth (or guitar) into the Monotribe's filter and VCA section, which allows insanely cool wah, gating, and even ring modulation effects when the LFO is applied to the filter.

That said, the external input highlights an omission in the Monotribe's design: There's no way to turn off the oscillator. Why is this an omission? Because turning off the oscillator would let you create noise-only patches. It would also let guitarists use the 'Tribe as an AdrenaLinn-style effects unit. But since the oscillator is always audible, gated guitar effects are a non-starter unless you don't mind playing a duet with a synth.

Specifications

PROS Fully analog signal path. Built-in analog drum machine. Gate time and sequence length can be "played" on the fly. Can process external audio. Sync in/out jacks let you sync Monotribe to another unit or vintage analog gear.

CONS VCA clicking can be heard at low filter cutoff settings. Oscillator cannot be silenced for noise-only sounds or audio processing. Single sequence memory is lost on power-off.

CONCEPT Analog groovebox, based on Korg's Monotron and MS-20 synths.

POLYPHONY Monophonic synth voice plus discrete kick, snare, and hi-hat.

SYNTH ENGINE Single oscillator with saw, square, and triangle waves; noise source, resonant lowpass filter; VCA envelope with three preset shapes; LFO with saw, square, and triangle waves.

PRICE List: $340
Approx. street: $250

korg.com

Conclusions

So what do I think? Well, the week I got it, I used two instances of Monotribe on a new remix for Gabriel and Dresden's "Dust in the Wind," if that says anything. For a street price of about $250, the Monotribe delivers honest-to-goodness analog for the price of a good soft synth. Heck, you could buy two and get duophonic synth voices over six-part drum grooves, thanks to the sync. Naturally, the comparisons between the Monotribe and Roland's classic TB-303 are flying, so let's just get this out of the way now: Forget hunting down a 303 on eBay, go buy a Monotribe, and get happy. This thing is so overqualified for our Key Buy award it's insane. K

SOUNDCLOUD Audio examples.

Video demo: two Monotribes in sync.

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A GAMBIT ON THE FUTURE

by Stephen Fortner

Car nuts have Giorgetto Giugiaro. Furniture buffs have Eames. *We* have Axel Hartmann, who has penned industrial designs for the Waldorf Wave, Q, and Blofeld; the Moog Voyager and Little Phatty; the Arturia Origin; the Alesis Andromeda; countless plug-ins, and . . . look, it's easier to list the instruments whose shapes and user interfaces he *didn't* come up with. As with cars, many of the most compelling designs never see retail in their original forms (Google "Citroen Karin" for one of my favorite examples), but instead contribute crucial elements to products that do. Such is the case with Hartmann's 1989 "Gambit" exercise. From its influence on today's keyboard landscape, it's a gambit that appears to have paid off.

"The Gambit was a product design study only, with no electronics inside. It wanted to be the optimum workstation of the future—an open system to run almost any device needed for music production," says Axel Hartmann. "In 1989, the look of a flat LCD panel was quite futuristic, and what you see on the screen are screenshots of Steinberg software, just to feed the imagination of how the production environment might look. The Gambit was conceived as an integrated system, much like the Synclavier in those days or the Korg OASYS and Kronos today. The idea was to run the entire process of songwriting and sound design on just one machine, and finally produce your own master CD onboard. The collapsible clamshell panel also found its way into my design for Arturia's Origin Keyboard." k

Visit design-box.de to see more of Axel Hartmann's designs.

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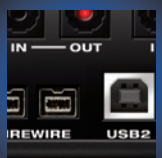

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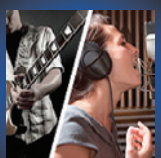

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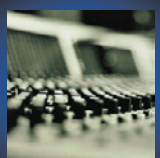

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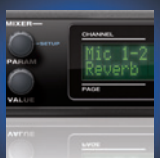

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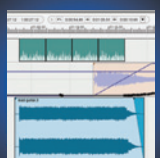

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